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No. 19: A FAUNAL INVESTIGATION OF PRINCE EDWARD
COUNTY, ONTARIO. BY L. L. SNYDER, E. B. S. LOGIER, T. B.
KURATA, F. A. URQUHART, AND J. F. BRIMLEY.

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A FAUNAL INVESTIGATION OF PRINCE
EDWARD COUNTY, ONTARIO

By

L. L. SNYDER, E. B. S. LOGIER, T. B. KURATA,
F. A. URQUHART, and J. F. BRIMLEY



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A FURTHER INVESTIGATION OF THE
BOWLING GREEN

THE BOWLING GREEN
A FURTHER INVESTIGATION

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A FAUNAL INVESTIGATION OF PRINCE EDWARD COUNTY, ONTARIO

GENERAL INTRODUCTION

Prince Edward County is situated near the eastern end of the north shore of Lake Ontario. It is an area of low relief which spreads out into the lake somewhat in the form of a river delta (see the accompanying map) but it had no such origin. Its basic geological structure is limestone laid down by a Palaeozoic sea (Ordovician). There is evidence that a more recent marine invasion reached this region in near post-glacial times, the Gilbert Gulf of the Champlain Sea (Coleman, 1922). The features which suggest this invasion are "shore forms" observed at Waupoos near the east end of Prince Edward County rather than marine deposits. Coleman's map (*loc. cit.*) indicates that during the last marine invasion central portions of Prince Edward County constituted an island. Subsequently the Labrador ice sheet, covering north-eastern North America, melted and a general uplift of land occurred which gave rise to Lake Ontario, and the whole of Prince Edward County as we now find it, emerged.

The area is virtually an island today. The Bay of Quinte from the east, all but meets Weller Bay on the west, leaving a narrow neck of land connecting the county to the mainland. Actually the neck of land is now severed to facilitate transportation. These bays were the travel routes of the Indians and the early traders and explorers who portaged from one to the other. The village of Carrying Place marks the portage and commemorates it by name.

Many bays of Lake Ontario indent the margin of Prince Edward County and impart to it an extremely irregular outline. These inundations, where the land slopes back gradually and there is general low relief, have provided many marshes. Also an extensive swamp is situated in the interior. Such features have allowed for the preservation of many faunal elements that would otherwise have been eliminated by settlement and cultivation.

Passing mention should be made here of two conspicuous physiographic features of the county which have attracted considerable popular interest, namely the Lake on the Mountain, near Picton,

and the Sand Banks on the south shore. The former is an attractive little lake situated near the shore of Lake Ontario, the surface of which is said to be 180 feet above Lake Ontario. The Sand Banks consist of an extensive dune area. Although these dunes are fascinating as a landscape, they constitute a grave threat to adjacent farms, some of which have been at least partially buried.

HISTORY AND FOREST

Settlement of Prince Edward County was begun by United Empire Loyalists in 1784 (Weaver, 1913). It became a separate county in the year 1831. Before the mid-nineteenth century all lands were taken up (Smith, 1846), no crown lands being available.

A brief but very early description of the county, written on November 20, 1794, by an anonymous author (1795), is worthy of quotation: "The most flourishing part of this settlement is round the Bay of Kenty [Quinte], the soil of which is rich, easy worked, and produces from one to three crops, without other cultivation than what is done by the iron tooth harrow, and yields from twenty to thirty bushels of wheat to the acre; those lands are somewhat heavy timbered, having vast quantities of sugar-maple, hickory and basswood, and in some places white pines of surprising height, but where the latter grows the land is more sandy, and although it is warm, sweet land, it is not so stony as the maple or oak land." In further reference to this settlement and the Bay of Quinte, this writer states that the whole bay is "so thick settled, that their improvements already meet and form the appearance of a beautiful old settled country. This bay and the creeks emptying into it, abound in great quantities of wild fowl, and fish of various kinds."

The above statement gives an early impression of the forest of Prince Edward County. Since that time marked changes have been brought about by further clearing of the land but there are still some fairly extensive forested tracts in the county. Woodlots of fine old sugar maple and beech are to be found on farms, and forests grow on much of the land which is unsuited for agriculture. Second growth white pine, some of fair size, is still to be found. One of the characteristic forest associations not mentioned in the brief account quoted above, is the red cedar woods. In places, usually pasture-land, this species is the dominant tree interspersed with

ironwood (*Ostrya virginiana*), bur oak, and hickory. The most characteristic shrubby undergrowth in such places is prickly ash (*Zanthoxylum americanum*) and juniper (*Juniperus depressa*). Fairly pure stands of oak-hickory forest occur in some places.

The swamp land of the interior of the county, along the Gerow Gore, supports a heavy tree growth wherein the greatest variety of tree species exists; elms, ashes, maples, poplars, tamaracks, white cedars, yellow and paper birches are prominent elements. For further details as to the type of forest in this general region, the reader is referred to a recent work on forest classification in Canada by Halliday (1937).

Some of our more interesting records of trees made during the summer of 1930 may be noted here: a scattered growth of well-developed hackberry trees (*Celtis occidentalis*) was discovered on Garrett Island, and near Hallowell red ash (*Fraxinus pennsylvanica*) was identified. Black walnut was observed quite frequently, under circumstances which suggested it was indigenous to the area. Cottonwood was found established on the dune at the Sand Banks.

AGRICULTURE AND CLIMATE

As regards agriculture and cultivation in the county it can be said that the early settlers were not unfortunate in their choice of lands. Although the soil is shallow, characteristic of the so-called Napanee Plain (Putnam and Chapman, 1936), and in many fields the limestone is so near the surface as to render them useless for agriculture other than pasture, many good farms exist. Chapman and Putnam (1937) have pointed out certain peculiarities of the Prince Edward portion of the Napanee Plain. They state that "some of the upper rock strata are 'nodular,' that is, the limestone layers readily break up into pieces not unlike coarse roadstone, while interbedded with these are thin layers of shale. The cracked limestone and weathered shale allows for somewhat deeper root penetration and creates a better soil than is usual on rock plains where the upper strata are more massive."

We noted that many cultivated fields in the county were profusely sprinkled with limestone fragments. Although these may be troublesome to farm machinery they do not impair the growth of crops.

Large fields of canning crops are raised, such as sweet corn, tomatoes, peas, and apples. Local canneries constitute a large seasonal industry of the area. A common designation of the county is "Ontario's market garden," which is not inept. However, drought is a troublesome feature of the climate of this section of the province. Putnam and Chapman (1938) have distinguished Prince Edward County as a separate climatic region of southern Ontario, largely on the grounds of low precipitation which "is only 28.6 inches and the depth of snowfall is 55 inches. Only 13.9 inches or somewhat less than half the total falls between April 1 and October 1, while 6.8 inches is the average for June, July, and August. This in combination with a high summer temperature (July mean of 70°), gives a precipitation effectiveness index of only 9.5, the lowest in Ontario. The drought frequency of 34 is, also, one of the highest."

With the exception of the slightly hotter summer, temperatures of Prince Edward County conform fairly closely to those of the north shore of Lake Ontario generally.

PREVIOUS WORK IN THE COUNTY

It is noteworthy that although the area was on the travel route of early explorers and has been a settled district for approximately one hundred and fifty years, very little has been published concerning its natural history. Quite a number of references have been noticed which concern hunting in the county, some of which are cited in the papers which follow. Klugh (1911) published an account of the interesting flora of the sand dunes, a physical feature mentioned above. More recently studies have been made of the life-history and habits of the cisco (Pritchard, 1930) and the whitefish (Hart, 1930) in the waters of the Bay of Quinte, which borders the county on the north.

FIELD WORK AND ACKNOWLEDGEMENTS

During the summer of 1930 several members of the Museum's staff carried on field work in Prince Edward County. On May 20, Messrs. E. B. S. Logier, H. P. Stovell, and the writer established a camp at Hallowell to study the amphibians, reptiles, birds, and mammals of the area. Mr. J. L. Baillie joined the party on June 23. Mr. Logier left the area on July 10. By late summer most of the

county had been reconnoitered: collecting had been done at various scattered stations and observations had been made along most of the roads in the county.

Mr. T. B. Kurata found opportunity to make casual visits to the county during June of the same year, and in July and August he was established at Wellington for more thorough collecting of spider specimens.

In 1939 Mr. F. A. Urquhart found opportunity to visit the county where he studied the orthopterous insects which occur there.

These field studies constitute the basis for the reports which follow. However, a great deal of additional information has been forthcoming from other naturalists who have visited there and from naturalists and interested persons who live in the county. All such persons receive acknowledgement in the papers which follow. Here we wish to thank them collectively and also to mention particularly and express our appreciation to Mr. W. H. Lunn of Hillier, Mr. Frank Brimley (who has contributed one of the papers which follow) and Mr. Dayton Murphy of Wellington, and Mr. Chas. Melton of Bloomfield for special interest and aid in our work. Mr. Garnet Tayler and his family, of Hallowell, were very helpful in providing facilities for field activities.

To the other members of the Museum's staff the writer wishes to acknowledge his appreciation for their complete co-operation, especially Messrs. Baillie and Stovell whose names do not happen to appear as authors on these reports.

LIFE ZONE AND FAUNAL AREA

The papers which follow present the details of the Museum's faunal work in the county. It is obvious, according to the Life Zone concept, that Prince Edward County lies within the Transition Life Zone and its fauna is characteristically Alleghanian, which is to say that the county lies within the belt where many southern forms reach their northern limit of range in the north-east. There is a striking mixture of boreal and austral forms in this region. It should be noticed, however, that a slightly higher number of southern elements occur than is characteristic for the north shore of Lake Ontario generally. In this connection we recall our mention that Prince Edward County was distinguished from the rest of the prov-

ince climatically, particularly in connection with the higher summer temperature (70° average for July) by Putnam and Chapman (1938).

Among the animals listed for the county the following are the more characteristically southern: four species of Orthoptera, *Conocephalus attenuatus*, *Amblycorypha oblongifolia*, *Scudderia texensis*, *Tridactylus apicalis*, King Rail (*Rallus elegans*), Blue-winged Warbler (*Vermivora pinus*), Cerulean Warbler (*Dendroica cerulea*), Yellow-breasted Chat (*Icteria virens*), and Orchard Oriole (*Icterus spurius*). Other species might also be mentioned which are almost equally austral in distribution such as the Swamp Tree Frog (*Pseudacris triseriata*), Yellow-billed Cuckoo (*Coccyzus americanus*), etc., but sufficient enumerations of examples have been presented to make evident the southern tendencies in the area.

Another point of special interest, concerning the distribution of animals in southern Ontario, has been emphasized by work in Prince Edward County. The discontinuity of range of certain forms along the north shore of the lower Great Lakes is now apparent. Certain animals taken in Prince Edward County also occur on Lake Erie but not in the Toronto region. Three of the orthopterous insects mentioned previously are examples. This is not in all cases a matter of a gap in the northern periphery of range. Some plant and animal forms which do not occur along the greater part of Lake Ontario's north shore, completely encircle the section by a continuous range from the east (Prince Edward County) northward and westward to Georgian Bay and thence southward to Lake Erie. Examples of this type of range are Juniper (*Juniperus depressa*), Musk Turtle (*Sternotherus odoratus*), Blanding's Turtle (*Emys blandingii*), Map Turtle (*Graptemys geographica*), etc. The cause of such discontinuity would seem to be rooted in some ancient redistributive history following glaciation or caused by some ecological barrier, perhaps both.

The faunal work in Prince Edward County is another contribution of the Royal Ontario Museum of Zoology which adds preliminary details necessary in the solution of many problems. It is hoped that the following papers which record the majority of the more conspicuous animals found there will be stimulating to others who may have opportunity to make more complete a catalogue of the life of the county.

L. L. S.

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THE MAMMALS OF PRINCE EDWARD COUNTY ONTARIO

By L. L. SNYDER

The mammal life of Prince Edward County, in respect to the total of species known to occur there in recent times, compares favourably with that of any equal area in southern Ontario. Thirty-one species are listed in the following paper. Future workers in the county may add others. It seems probable that civilization has brought about the complete disappearance of some species and undoubtedly it has greatly reduced the living space of others. Unfortunately no record has been left to us of the original mammal inhabitants of this area. The changes about which we can be most certain have to do with forms introduced, or which have spread into the county from contiguous areas. In so far as information was available, details of such additions are reported briefly in the following annotations.

The compilation of this list of mammals has depended principally on a collection of specimens made in Prince Edward County during the summer of 1930 when the Royal Ontario Museum conducted field work there. Mr. H. P. Stovell, then on the staff of the Museum, collected and prepared most of the mammal material. To Mr. Stovell and to the several individuals mentioned in the text, who have supplied specimens and information, the writer expresses his thanks.

Symbols are used in presenting measurements of specimens as follows: Length = L., Tail = T., Hind Foot = H.F., and Weight = Wt. Linear measurements are in millimetres and weights in grams. Where the measurements of males and females have not shown significant differences, or obviously overlapped widely, the two sexes have been averaged together. No attempt has been made to make racial determinations in reporting on the Prince Edward County collection. Such matters are best left for studies of a broader scope in view of the many problems known to exist.

Condylura cristata. STAR-NOSED MOLE.—We observed this species once during the summer of 1930, near Hallowell. A speci-

men taken locally is in the collection of Mr. Frank Brimley at Wellington. Other reported occurrences indicate that this animal may be found here and there throughout the county in moist situations.

Sorex cinereus. CINEREOUS SHREW. The population of this species was not large during the period of our visit in 1930. We secured only two specimens; one in moist, mossy ground at the edge of an island in West Lake, and the other, also from a moist situation, beneath a stand of white cedars. A third specimen was found dead on October 9, 1934, and forwarded to the Museum by Mr. Frank Brimley. The average measurements of the three specimens are—L. 97.3, T. 39, H.F. 11.1, Wt. 4.9.

Sorex fumeus. SMOKY SHREW.—The collecting of this species in Prince Edward County constituted a considerable extension of range eastward in the province in 1930 though it is now known to extend considerably further to the east (Anderson, 1938). Two males were secured in moist woods—white cedar and deciduous trees. The average measurements of these specimens are—L. 119, T. 43.5, H.F. 13.9.

Blarina brevicauda. MOLE SHREW.—This shrew was not uncommon during the summer of 1930. The specimens secured were all taken from beneath tree-cover but the gross habitat varied from farm orchards to primeval swamps. These situations were similar in respect to shade, adequate ground cover, and deep moist soil. Of the nine specimens from Prince Edward County, eight are apparently sexually mature. Their average measurements are—L. 122.2, T. 23.6, H.F. 14.7, Wt. 19.9.

Myotis lucifugus. LITTLE BROWN BAT.—Our casual information on bats suggests that this species is the commonest one found in the county. During the daytime on July 1, 1939, Mr. H. H. Southam found approximately one hundred Little Brown Bats roosting in the roof of a disused barn at Point Traverse. Nine were captured and banded. Two of the specimens banded were nursing females. Mr. Southam has remarked on the fact that the necessary handling

for banding in each case did not dislodge the young one clinging to the nipple.

The late John Townson identified an individual which entered a cottage on the night of September 13, 1931. The bat, which was captured, had struck Mr. Townson on the head while in flight. To persons unlike Mr. Townson, such unusual behaviour would be most convincing in support of the prevalent belief that bats deliberately attempt to find refuge in the hair of one's head. Our only specimen was taken at Wellington and preserved by Mr. Frank Brimley.

Lasionycteris noctivagans. SILVER-HAIRED BAT.—This species along with the Little Brown Bat (see above) entered a cottage at Weller Bay during a westerly gale on the night of September 13, 1931. The late John Townson who handled the specimen, later checked and verified his determination as of this species by reference to the R.O.M.Z. collection. This is our only record for the county and possibly concerns a migrant.

Nycteris cinerea. HOARY BAT.—A single record of this species is that of Mr. Frank Brimley, who found a female specimen clinging to a tomato plant in his garden at Wellington on September 9, 1931. This unusual resting place suggests that the animal was exhausted, and further, the circumstances seem to indicate that the individual was a migrant. The wings of this specimen are in the R.O.M.Z.

Lepus americanus. VARYING HARE.—Settlement of the county with the progressive reduction of woodland, no doubt has diminished the habitat of this species but it still exists in the larger woods which remain. Reports in recent years do not indicate that there are periods of great abundance. They were scarce in the county during the last period of abundance over this general section of the province, which was from 1930 to 1932 (MacLulich, 1937). In the winter of 1936-7, Mr. W. H. Lunn reported the possibility that this species was extinct there but later learned that six had been shot by hunters that winter and on February 12 (1937) he saw tracks of the Varying Hare in a swamp near Hillier. Our only specimen from the county is a male in winter coat taken by Mr.

Chas. Melton in a swamp near Hallowell on December 17, 1930. The measurements of this specimen are as follows—L. 493, T. 47, H.F. 142.

Lepus europaeus. EUROPEAN HARE.—The appearance of this species in Prince Edward County is of recent date, and marks, at this time, the most easterly area occupied in the province. Since its introduction into southern Ontario near Brantford in 1912 (Dymond, 1922), it has increased and spread to the north and east. Inquiries addressed to the Agricultural Representative of Prince Edward County at Picton, Mr. A. P. MacVannel, in the winter of 1927-8, elicited information that the species was unknown in the county at that time. The first definite occurrences in Prince Edward County were in 1936: Mr. G. R. Ingram shot one on September 10 of that year near Hallowell, and Mr. Chas. Melton saw it for the first time, in the same section of the county, in December of 1936. The area is approximately two hundred miles from the place of introduction (Brantford) and the time lapse is approximately twenty-four years which gives a dispersal rate of approximately eight miles per year. Although the species is not yet firmly established it seems probable that it will increase markedly in Prince Edward County. The stock involved in the introduction in Ontario was from Germany.

Sylvilagus floridanus. COTTONTAIL.—In attempting to determine the period during which the Cottontail first reached Prince Edward County some speculation has been necessary and a certain amount of data rests on the memory of hunters rather than on recorded fact. Fleming (1908) has mapped its range of thirty years ago and Baillie (1935) has added extensions. Fleming's map shows the eastern limit as extending to the Trenton vicinity which is on the mainland north of Prince Edward County. Actually his map all but includes the county within the Cottontail's range in 1908. Mr. W. H. Lunn has made inquiries of local hunters who have submitted the earliest dates at which time the Cottontail was remembered as resident in the county. These are tabled below, the localities being listed from north-west to south-east (see map, general introduction):

| | |
|------------------|--------------------------|
| Roblin Lake..... | about 1892—fairly common |
| Bloomfield..... | about 1908—few |
| Picton..... | about 1913—few |
| Point Petre..... | about 1918—occasional |

If the Cottontail occurred in the county before 1908, evidence was not available to Fleming. It is possible that hunters' memories have erred and that occurrences earlier than Fleming's are wrong. At any rate this animal probably had its advent in the county approximately at the beginning of this century. It is now generally distributed over the area and at times quite plentiful. We found it not uncommon in 1930. Two specimens were collected, one a mature female which measures as follows—L. 482, T. 54, H.F. 106. The other specimen is a male, apparently not an old individual but not a young of the year. Its measurements are—L. 400, T. 35, H.F. 93, Wt. 1268.

A newspaper item published in the Toronto "Star" for August 10, 1935, describes the peculiar behaviour of a Cottontail observed by Mr. B. L. Detlor at Green Point. He heard a splashing in the water near his cottage and upon investigation found the commotion to be made by a Cottontail. It appeared to be enjoying the water and its actions gave every indication that its plunge was of its own choosing.

Marmota monax. WOODCHUCK.—Well distributed in the area and fairly numerous locally. Mr. W. H. Lunn has reported that it appears from hibernation by late March (March 20, 1935). The two specimens preserved are both adult males. Their average measurements are as follows—L. 612.5, T. 122.5, H.F. 80.5, Wt. 2734.

Tamias striatus. EASTERN CHIPMUNK.—Common and well distributed throughout the county in 1930. The rail and log fences which have survived about farms, create the most favoured habitat for chipmunks. Our earliest spring date on which this animal has been observed (Mr. F. Brimley, 1912) is March 20 though first spring records vary from then until April 6 (Mr. W. H. Lunn, 1935). Five of the eight specimens collected are adults, without tail damage. Their average measurements are as follows—L. 235.4, T. 84.8, H.F. 34.6, Wt. 93.8.

Tamiasciurus hudsonicus. RED SQUIRREL.—During the summer of 1930 Red Squirrels were plentiful and occurred in suitable, wooded sections throughout Prince Edward County. There is undoubtedly some variation in numbers from time to time but the species is one of the county's original faunal components which persists and even flourishes to a degree. The most recent period of scarcity was 1937, according to reports. A series of twelve specimens collected in summer, and six taken in winter (Mr. W. H. Lunn) are in the Prince Edward County collection. It is of interest to note that four out of the twelve specimens taken in summer were "bob-tailed." This condition is frequently observed among members of the *Sciuridae*. It may be a consequence of near-capture by some predator or a result of freezing in winter. The average measurements of the fourteen undamaged specimens are—Seven males: L. 322, T. 132, H.F. 48, Wt. 212. Seven females: L. 315.3, T. 124.6, H.F. 46.1, Wt. 194.1. Although these measurements may represent a slight, average, sexual difference in size, this is not certain. Actually the individual which is largest in most respects is a female, the measurements of which are—L. 360, T. 145, H.F. 44, Wt. 200.

Sciurus carolinensis. BLACK OR GREY SQUIRREL.—The early history of this species for southern Ontario generally, and the eastern part in particular, needs review. Introductions made in recent years in various sections of the province have confused the issue. Our data on Prince Edward County are so incomplete that it leaves the question unsettled as to whether or not the Black (or Grey) Squirrel was an original component of the fauna. It is known to have occurred in some of the mainland counties to the north in the early 1890's and may well have been in Prince Edward County. Mr. Frank Brimley of Wellington has made inquiry among residents there and has decided that the Black Squirrel (and Grey) has been a resident, at least in the eastern part of the county, throughout the lifetime of even the oldest residents. Mr. Brimley is certain they have increased and become more generally distributed in the last few years.

Undoubtedly there have been periods when this species was quite scarce in Prince Edward County. Mr. W. H. Lunn states that

it was "almost unknown" in 1926. We found it rare during the summer of 1930. The most likely place to observe it was along the so-called "Ridge Road" near Picton. We saw the grey phase there on one occasion and observed black individuals rarely.

On several occasions the writer has noticed newspaper reports of a curious phenomenon in connection with this species in the Bay of Quinte region. Every few years Black Squirrels have been observed swimming in the bay. Although these accounts were not satisfactorily complete and lucid, they gave one the impression that a population surplus was scattering to new territory in the fall. Without doubt these animals had entered the water voluntarily but the direction of their emigration was not definitely stated. It is possible that food shortage on the mainland might start such a movement toward Prince Edward County, or vice versa.

The average measurements of three male specimens from the county are—L. 490.7, T. 221, H.F. 64, Wt. 571.7.

Glaucomys sabrinus. NORTHERN FLYING SQUIRREL.—Although it is difficult to estimate the numbers of this nocturnal species, our records suggest that there are periods during which it is not uncommon. Woodcutters and trappers meet with it occasionally. Our first record concerns a specimen in the R.O.M.Z. collected near Bloomfield on January 25, 1931, by Mr. Chas. Melton. Two specimens in the collection of the National Museum of Canada originated from Prince Edward County. These were young born in captivity from a mother captured at Wellington by Mr. Edward R. Bailey in the summer of 1934. Mr. Frank Brimley has reported three more taken at Wellington on October 1, 1934. Our reports also concern four observed when a tree was felled near Allisonville by Mr. C. M. McFaul on February 17, 1938.

The measurements of the mature specimen in the R.O.M.Z. are—L. 290, T. 136, H.F. 37.

Castor canadensis. BEAVER.—Although it seemed reasonable to suppose that the Beaver once inhabited Prince Edward County, no definite evidence was discovered in the literature and no recollections of it by the old residents came to hand. It is amusing, therefore, that during the preparation of this paper the following

news item appeared in the Picton "Gazette": "Big Island, Nov. 13 [1939]—Beaver have returned to this county. Cuttings of two and four inch diameter willow trees have revealed the location of at least one on a marsh island south of the west end of Big Island. . . . Beaver have not been present in this county for many years, although there are a number of beaver meadows scattered about the county."

This discovery was made by Mr. Charles Melton, who has amplified the report as follows: "While duck hunting in the Big Island marsh on Nov. 8 [1939] we landed on a small island there. As we came to the edge we were surprised to find a number of small trees cut down and some dragged along a path in the grass to the open water. These small trees were about twenty feet long and were cut into short lengths, from six inches to four feet long."

A further report in the Picton "Gazette" states that Mr. Roy Covert, a farmer near Demorestville, had observed where a beaver had been at work along a creek on his farm. During July, August, and part of September, this animal cut down trees and started to build a house in the creek but the creek went dry and it disappeared. This may have been the work of the same animal, or animals, observed on Big Island, which is immediately adjacent to the Demorestville site.

Incidentally this reappearance of the Beaver in Prince Edward County coincided in time with reappearances and increases noted rather widely in southern counties.

Peromyscus leucopus. WHITE-FOOTED MOUSE.—This animal was not very numerous during our visit to the county in 1930. At least one conspicuous population peak has been reported by residents since then. During the winter of 1935-6 this and the species listed next, were both at a peak of numbers. Conspicuous damage to trees and shrubs, wild and domestic, was evident about the countryside. During our visit to the county, when the numbers of White-footed Mice were low, we found that "sugaring cabins" in the maple woods on farms were the most likely situations from which to secure an occasional specimen.

Six normal and mature individuals in our collection present the following average measurements—L. 184, T. 82.8, H.F. 20.9, Wt.

24.8. One individual forwarded to the Museum by Mr. Frank Brimley is patterned like a normal White-footed Mouse but the dorsal region is "vinaceous buff." Judging from its measurements it was not a very old animal.

Microtus pennsylvanicus. MEADOW MOUSE.—This inhabitant of fields and marsh-borders was very scarce during our visit to the county. The winter of 1935-6 was the last period of large numbers according to reports. Mr. Chas. Melton reported that shrubs and trees of all kinds, even red cedar transplanted in gardens, were girdled by Meadow and White-footed Mice.

Only three specimens were collected by us in 1930. All of these were immature animals although one was a pregnant female from which seven embryos were removed when dissected.

Ondatra zibethica. MUSKRAT.—The marshes of Prince Edward County regularly produce a crop of this valuable fur-bearer but its numbers vary from time to time. Muskrat houses were observed here and there during the summer of 1930 but they were not regarded as particularly numerous. Occasional reports have been received since that time but it is not possible to indicate from them a subsequent period of large numbers. The species was reported as particularly scarce in the spring of 1937. Furriers regard the "Rice Lake" Muskrat, which is said to come from eastern portions of southern Ontario generally, as distinctly the best.

Rattus norvegicus. HOUSE RAT.—Nothing is known of the early history of this mammal in the county but since there has been extensive settlement there for over one hundred and fifty years, the rat probably found its way there early in the last century. We found it about towns and farmsteads during the summer of 1930.

Mus musculus. HOUSE MOUSE.—What has been said about the House Rat applies to this species as well.

Zapus hudsonius. MEADOW JUMPING MOUSE.—This is the only species of Jumping Mouse discovered by us in the county. It was not common during the summer of 1930. The two specimens

secured, both males, were taken in grassy habitats, one from a stream border and the other at the edge of a swamp.

Their average measurements are—L. 201.5, T. 117.5, H.F. 28.75, Wt. 15.

Vulpes fulva. RED FOX.—During certain years foxes occur in the county in sufficient numbers to provide sport for hunters. At such times the economic value of fox fur to the county is at least of minor importance. Mr. W. H. Lunn has reported that foxes were more plentiful in the winter of 1936-7 than they had been for some years. A female, taken on February 23 (1937), when dissected was found to carry seven embryos and it was estimated the young would have been born in about two weeks.

Canis lupus. TIMBER WOLF.—The Timber Wolf has long since ceased to be a regular inhabitant of the Prince Edward County area. The older residents can recall stories about wolves in the county in pioneer days, when the safe-guarding of live-stock from wild animals was something of a problem. Only because of the close proximity of Prince Edward County to areas of wild land on the mainland to the north, can we account for any recent occurrences of wolves. One such occurrence which was reported in the Toronto "Telegram" for December 16, 1932, concerned a wolf shot near Consecon about ten years previously. It had been seen crossing the ice on the Bay of Quinte, pursued by two dogs. There seems to be no reason to suspect that any other form of wolf than the Timber Wolf would be involved in this observation considering the section of the province and the period, about 1922.

In the specific nomenclature we have followed Goldman (1937).

Procyon lotor. RACCOON.—During some periods this mammal is fairly plentiful in the county. In 1936 and 1937 trappers secured a fair catch. Like the Fox and Muskrat, Raccoons appear to be able to persist in settled, cultivated sections. Adequate food and suitable home sites are perhaps the more important factors but, to some extent, the reconcilable temperament of the animal concerned may also be involved.

Euarctos americanus. BLACK BEAR.—Like the wolf, the Black Bear, one of the original mammals of the area, has disappeared as a regular inhabitant of Prince Edward County. Its appearance there in recent years can only be regarded as a rare accident. Such an occurrence took place in January, 1938. News reports described the search, by an armed posse near Picton, for two young Black Bears reported there. Mr. Archie Nameer and Mr. Harold Soules had sighted two bears digging in a hillside. As seems to be the rule in such cases, an alarm was spread and Provincial Police and Game Wardens were called out to scour the countryside (why?!). Mr. Ed Harrington later saw bear tracks in the snow and noted that the animals had moved eastward. They apparently had stopped to search for food about an old gypsy camp-ground but a fall of snow finally obliterated their tracks. Fortunately the bears eluded the "law" and were not observed again.

Mustela cicognanii. SHORT-TAILED WEASEL.—Weasels of two kinds occur in Prince Edward County. They vary in numbers considerably from time to time and according to Mr. W. H. Lunn they were more numerous during the winter of 1936-7 than they had been for some years previously. Five specimens from the county in the R.O.M.Z. collection have been identified as representing the species here considered. Skull characters together with certain other measurements have been used in the determinations and the writer has had the valued opinion of Mr. E. C. Cross of the Division of Mammals. The average measurements of two males are—L. 296, T. 77.5, H.F. 38.5, Wt. (of one) 115. The measurements of one mature female are —L. 257, T. 68, H.F. 33.

Mustela frenata. LONG-TAILED WEASEL.—The specific nomenclature employed here is that followed by Hall (1936). This larger species of weasel is represented in our collection from Prince Edward County by two specimens, one of each sex. The male, collected on November 10, 1930, and still in the brown coat of summer, measures—L. 377, T. 137, H.F. 45. The female measures —L. 321, T. 110, H.F. 37, Wt. 102.

Mustela vison. MINK.—Usually a rare mammal in the county. We have records from a few localities—Allisonville, Wellington,

etc.—which indicate a general but sparse distribution within the area. The relative absence of streams in Prince Edward County may have something to do with the regular scarcity of mink.

Mephitis mephitis. SKUNK.—A regular and often plentiful mammal of Prince Edward County. The winter of 1936-7 marked a period of large numbers of Skunks. Mr. W. H. Lunn has reported that more were trapped that year than had been for many years previously. He further states that it was generally commented on by trappers that these animals did not “den up” as is usual in the fall (of 1936) apparently due to the mild weather which prevailed. On the morning of July 11, 1930, the writer happened to discover two half grown Skunks playing before their home-burrow in a barley field, near Hallowell. No two baby animals could have been more entertaining by their conduct.

Phoca vitulina. HARBOR SEAL.—Several occurrences of this species in the upper St. Lawrence and even in Lake Ontario and adjacent lakes have been reported, a number of years ago (Merriam, 1884a and 1884b). Our first report concerning Prince Edward County waters appeared in the Toronto “Telegram” for February 22, 1932. Men cutting ice in Lake Ontario near Sand Banks saw a seal roll off a cake of ice about one hundred yards from shore. The animal reappeared later at the same place. Again in the Toronto “Star” for February 28, 1934, a seal was reported as seen on floe ice about 20 yards off shore near Picton, by Mr. Ralph Garratt, local fisheries inspector. In the same paper for April 26 of that year another report suggests that this animal had remained in adjacent waters. Mr. Kenneth Hyatt and Mr. Durward Huff, local fishermen, saw the animal at close range from a boat and positively identified it as a seal.

The species involved is evident on the basis of known occurrences in the general region of the upper St. Lawrence (see Anderson, 1938).

Odocoileus virginianus. WHITE-TAILED DEER.—Although conditions in Prince Edward County no longer favour this species, it has not permanently disappeared from the area. There probably

have been periods in which none was to be found there, but occasionally individuals have drifted in from the mainland to the north, and during recent years a few have remained, perhaps even to reproduce there. During the summer of 1930 we learned that two or three had inhabited a swamp north of Bloomfield during the previous winter. Also one had been shot near Cherry Valley during the same winter (1929-30). We picked up a small shed antler on the sand dunes at Sand Banks in June (1930). Mr. W. H. Lunn has reported that one or more deer were seen at Carrying Place during the summer and autumn of 1938 and that a fawn and doe were observed near Rednersville in the summer of 1938.

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THE BIRDS OF PRINCE EDWARD COUNTY, ONTARIO

By L. L. SNYDER

INTRODUCTION

When faunal work in Prince Edward County was undertaken in 1930 it was intended, so far as birds were concerned, to restrict our report to forms occurring there in summer. The preparation of a report has been delayed. In the meantime considerable information has accumulated which pertains to the county's bird life for all seasons. These additions are sufficient to warrant a more comprehensive paper.

The annotated list here submitted is obviously incomplete. A dozen or more species which probably occur in the county at one season or other will be noted as missing from the list by persons familiar with the ornithology of the general region. In a sense, then, the list must be regarded as provisional. But it seems to the author that the gathering of miscellaneous facts from scattered sources has resulted in a surprisingly complete catalogue of the birds of the area.

Many individuals have contributed data and specimens. Next to the material and information secured by members of the Museum's staff in the field, Mr. W. H. Lunn of Hillier, Ontario, has contributed most. He has secured many important specimens which amplify the Museum's collection and has generously forwarded countless notes on observations made as opportunity afforded during the past ten years. Mr. Frank Brimley's notes for 1912 and 1913, made at, or near, Wellington and a number of his locally-collected specimens have been very helpful. Specimens and information from Mr. Dayton Murphy, who lives near Wellington, and Mr. Charles Melton of Bloomfield have also contributed greatly. Also manuscripts of the late John Townson, who hunted in Prince Edward County each autumn for many years, have supplied considerable data for that season.

In addition to the above contributions, a host of observers have kindly made available lists of birds seen in the county, or given information on specific questions pertaining to Prince Edward County birds. These are: Messrs. J. L. Baillie, R. J. Rutter,

H. H. Southam, and Stuart L. Thompson of Toronto; Dr. H. F. Lewis of Ottawa; the Rev. H. H. Barston of Union Springs, New York; and the following residents, past and present, of Prince Edward County: Messrs. Edward Bailey, Wm. Carrell, W. G. A. Lambe, Dennis Mason, M. MacDonald, Chas. McFaul, and Garnet Tayler. Still others who have contributed data indirectly are mentioned in the text. Besides the above, information relative to the occurrence of birds in the county was available in the collection of the National Museum of Canada in Ottawa, the collection of the late J. H. Fleming in Toronto, the Beaupre collection and diaries, and the Rev. C. J. Young collection of birds' eggs in the R.O.M.Z., and the Klugh collection of bird skins in the same institution. The general literature on Ontario ornithology has also been a source. The Museum's bibliographical file prepared by Mr. J. L. Baillie has been consulted and a number of the Prince Edward County references found. These are cited in the text.

Generalized statements on migration periods, etc., are based on the miscellaneous and scattered records available. Here and there in the text facts are credited to the personal source but it will be appreciated that it was not feasible to specify the authority for the countless individual observations from which this list is compiled.

The collection of Prince Edward County birds now in the Royal Ontario Museum of Zoology totals 576 specimens representing 178 species. The following list tabulates 225 species. Of these 139 occur, or have occurred, in the county in summer and satisfactory breeding evidence has been presented for 92.

The English species names are from "Birds of Canada" by P. A. Taverner. The fourth edition of the American Ornithologists' Union Check-List has been followed for the sequence of the list.

Gavia immer. COMMON LOON.—A regular migrant which arrives in early April (April 5, 1936) and remains in the open water in and about the county until late May after which only an occasional pair may be found established in the larger marshes where they nest. A loon's nest was found on a muskrat house situated in the marshy border of Garrett Island in West Lake on June 3, 1930. It contained two eggs. The loon as a marsh-dweller is rather unusual in Ontario. It is more characteristically a bird of

rock-bound, non-marshy lakes on the Precambrian Shield. The marsh constitutes quite a distinct ecological niche but one which was probably more commonly occupied in southern Ontario in early times before civilization reduced or rendered this type of habitat less inviting to loons.

A young bird secured on June 27 was first observed when being transported on the back of its parent in the open water at West Lake. It is in the dark, downy plumage and not long out of the egg. An adult in the National Museum of Canada collection was caught in a gill net set at a depth of 100 feet off the Sand Banks on June 15, 1899.

Nestling ♀ June 27, 1930, Hallowell.

Gavia stellata. RED-THROATED LOON.—A rare spring and fall migrant concerning which we have little data. A male, largely in winter plumage, having only a few new chestnut-coloured feathers of summer dress showing on the fore-neck and some new dusky grey feathers on the chin, was found dead on April 1, 1937, at Wellington. Oil on the lake was obviously the primary cause of death. A second specimen which we were not able to preserve but which provides our latest spring record was taken in a fishermen's net on May 19, 1939.

♂ April 1, 1937, Wellington.

Colymbus grisegena. RED-NECKED GREBE.—A migrant species usually found off shore in Lake Ontario or on the larger bays of Prince Edward County, in the spring and fall. Between twenty-five and thirty individuals were counted on Weller Bay during the third week of April, 1929. Smaller groups are more common. Their occurrence earlier in April is demonstrated by two specimens in fresh nuptial plumage in the Museum's collection. This grebe probably occurs regularly in October and November. We have records of thirty seen in October, 1929, at Pleasant Bay and of one taken at Wellington on November 23, 1938.

♂ April 3, 1937, Wellington.

♂ about April 12, 1937, Wellington.

♀ (skull only) about April 12, 1937,
Wellington.

♂ Nov. 23, 1938, Wellington.

Colymbus auritus. HORNED GREBE.—By late March when the ice breaks up in the bays around Prince Edward County this migrant species appears and may be found fairly commonly until early May. Bell (1883), in reporting on a pair shot at Weller Bay in April, 1883, considered the species a rare visitor to the area at that time. Three specimens collected about April 20, 1936, on West Lake near Wellington are all males. This suggests there may be sexual segregation at this date. The first fall arrival in 1931, an open flock of twelve, was noted on November 2.

3 ♂♂ about April 20, 1936, Wellington.

Podilymbus podiceps. PIED-BILLED GREBE.—A common resident species which arrives in early spring (March 30, 1935). The marshes of the county afford extensive habitats for nesting. A nest on floating vegetation in a rather open, reedy section of the marsh near Hallowell was found on May 29, 1930. It contained seven fresh eggs. Another set of eight fresh eggs in the R.O.M.Z. was taken near Wellington about June 15, 1936. The species is to be found in the region until rather late in the autumn but no exact dates are available.

♀ about April 17, 1936, Wellington. ♀ May 22, 1934, Wellington.
2 ♂♂ about April 17, 1936, Wellington. ? (skull) May 26, 1934, Wellington.
♂ about April 20, 1936, Wellington. ♀ May 29, 1930, Hallowell.

Pelecanus erythrorhynchos. WHITE PELICAN.—One occurrence of this species in Prince Edward County is substantiated by a skin in the R.O.M.Z. collection.

♂ Oct. 9, 1937, Northport.

Phalacrocorax auritus. DOUBLE-CRESTED CORMORANT.—A regular migrant through the county but not common. A specimen taken at Wellington on May 6 and a bird in first winter plumage, taken on October 9 at Weller Bay, mark our only exact dates of occurrence.

(skull) May 6, 1936, Wellington. ♂ Oct. 9, 1937, Weller Bay.

Anhinga anhinga. WATER TURKEY.—Two identical news clippings on file in the R.O.M.Z. (one originating from Mr. Wm. Carrell

and the other from the late C. W. Nash) neither of which is annotated as to the source, relate in part on the occurrence of a "black darter" or "snake bird" in Prince Edward County. The context of this news item fixes the time as the autumn of 1904. Further, it gives as the authority, Mr. Wm. Carrell, a sportsman-naturalist, who is well acquainted with birds and who, at that time, lived in Wellington, Ontario. Correspondence has been carried on with Mr. Carrell who now resides in Indian Head, Saskatchewan. Mr. Carrell writes that "this bird was shot¹ by an Indian on West Lake near the village of Wellington." At the time, on hearing of the bird, Mr. Carrell states he "suspected it was a cormorant" but three days later information reached him that this was not the case. Consequently he made a special trip to the locality to see the bird. The Indian's dog had mangled the specimen rather badly, but Mr. Carrell secured the head, one foot, and some feathers and later forwarded these to the late Sam Wood, naturalist on the "Globe" staff, who verified his identification, that it was a Water Turkey. Mr. Carrell conveys the following descriptive notes taken at the time,— "bill slender, sharply pointed and sharply toothed; eyes, red; feet, yellow with four toes, with web joined to all four toes."

There are no other records of this species for the Dominion though a specimen taken in 1881 at Sault Ste. Marie, now in the Museum of Zoology, University of Michigan, possibly came from the Ontario side.

With the details as stated above we can but regard the Prince Edward County record as the first well-documented case though it should be reserved as hypothetical since no fragment of the specimen was preserved and there is the possibility of its having been an escape.

Ardea herodias. GREAT BLUE HERON.—This species returns in early spring (March 28, 1935) though movement of individuals, apparently migrating through the region, has been noted as late as May 1 (1934). In 1930 a fairly large breeding colony was found established near Hallowell on what is known as the "Gerow Gore."

¹Since the above was written, a further communication from Mr. Carrell fixes the date as September 7, 1904, and provides the name of the Indian who shot the bird, Billy Brant.

We visited this colony on July 14 and counted fifty-four nests. At that time most of the young had left their nests but were still about the tree-tops within the colony boundaries. The nests were situated in old, live red maples. Seven nests were located in a single tree. The species was noted daily by us throughout the summer, adults probably from the nesting colony discovered ranged widely over the county for feeding. Mr. H. H. Southam visited this colony in 1934 and found it had expanded greatly. He estimated that it then consisted of two hundred and fifty nests.

Merrill (1892) records a gathering of "fifty or more feeding on dead fish" at the Sand Banks. This observation would appear to concern the autumn season, prior to 1892. Our latest fall record is that of Mr. W. H. Lunn who saw two Great Blue Herons on December 4, 1937, at Pleasant Bay.

Juv. ♀ July 14, 1903, Gerow Gore. ♂ (skull) Nov. 8, 1936, Wellington.

Casmerodius albus. GREAT WHITE EGRET.—A summer wanderer, rare in Prince Edward County. Mr. R. J. Rutter saw one at Weller Bay on June 5, 1932, and Mr. W. H. Lunn reported one seen daily near Melville from the first week of August to the twenty-sixth during the same year.

Florida caerulea. LITTLE BLUE HERON.—This species, like the last, is a summer wanderer north to southern Ontario and its occasional occurrence in Prince Edward County is to be expected. The Rev. Henry H. Barston of Union Springs, New York, who has observed birds near Wellington, Prince Edward County, each summer for many years, has communicated the following note: "Last year [1937] I saw an immature Little Blue Heron, pure white, about half the size of an American Egret. It was seen close up, on the shore of an island in West Lake, at least twice during the month of August."

This is our only record of the species in the county.

Butorides virescens. GREEN HERON.—Our earliest spring arrival date for this rather uncommon species in Prince Edward County is May 1 (1934). We did not find it established in the county during our summer visit there in 1930. The late John Townson saw one at Weller Bay on August 18, 1934. Aside from a

specimen in the National Museum of Canada collection secured on September 22, 1905, at Consecon Lake, no information on its occurrence in the autumn is available.

Nycticorax nycticorax. BLACK-CROWNED NIGHT HERON.—Mr. Dayton Murphy saw two of these herons on West Lake near Wellington on July 30 and 31, 1934. More recently, during August and early September, Mr. Manly MacDonald saw and reported seven or eight about the Bay of Quinte east of Carrying Place. Its status in the county is probably that of an irregular and uncommon summer and early autumn visitor.

Botaurus lentiginosus. AMERICAN BITTERN.—In the spring this species is to be expected by mid-April, occasionally earlier (March 28, 1936). It is a common breeding bird of the county, from one to twelve having been noted by us daily during the summer of 1930. Mr. W. H. Lunn reported the finding of a nest in a hay meadow near Allisonville on July 8, 1933. The eggs were in an advanced stage of incubation. The species is still to be found in the area in late October, even as late as November 13 (Lunn in 1939).

♂ May 4, 1936, Wellington.

♀ June 27, 1930, Hallowell.

♀ May 6, 1936, Huyck Point.

Ixobrychus exilis. LEAST BITTERN.—A fairly common summer resident species in Prince Edward County. We saw it on several occasions in the summer of 1930. Two sets of eggs, one of four and the other of five, in the R.O.M.Z. were collected on June 20, 1936, near Wellington. The late John Townson saw four Least Bitterns on September 13, 1931, on a marshy creek flowing into Weller Bay. This date is probably near the time of its normal autumn departure but a specimen taken on September 15, 1892, in Prince Edward County is in the Fleming collection.

An example of the red phase of this species, Cory's Bittern, was collected at the lower end of West Lake (Hallowell) in June, 1895, by Mr. Dayton Murphy. This specimen is now in the R.O.M.Z. collection.

? about 1895, Wellington.

? June, 1895, Hallowell.

Cygnus columbianus. WHISTLING SWAN.—A rare and irregular migrant through Prince Edward County. In the spring of 1932

Mr. Dayton Murphy saw a flock of swans on Lake Ontario which were, no doubt, of this species. Swans, probably the same flock, were also reported during the next few days at Pleasant Bay and at Huyck Point. A lone individual was noted on West Lake on April 9 and 10, 1934, and on November 1, 1939, Mr. Charles Melton saw one feeding close to the shore at Sand Banks.

Branta canadensis. CANADA GOOSE.—A regular migrant which occasionally lingers en route in Prince Edward County. The earliest spring arrival date among our records is that of a flock seen on March 14, 1935, at Hillier. The majority observed are passing through in late March and early April. The latest spring record concerns a flock seen feeding on a field near Hillier by Mr. W. H. Lunn on May 1 and 2, 1934.

The autumn migration of Canada Geese through the county begins in early October (October 8, 1934) and reaches its height toward the end of the month. The latest date among our records is November 2, 1935. The species has been noted on migration mostly by day but a heavy night flight over Weller Bay, on October 31, 1931, was reported.

It is assumed that the race, *B. c. canadensis*, is the one which usually occurs in the county. A very small individual which joined the domestic flock of Canada Geese owned by Mr. Dayton Murphy near Wellington in October, 1939, conforms to the dimensions of *hutchinsi*, according to Mr. W. H. Lunn. It is said to have weighed five pounds.

Branta bernicla. COMMON BRANT.—Mr. Roy Hogle, while hunting ducks on Massasauga Bay (Prince Edward side of Bay of Quinte) in October, 1934, shot a Brant from a flock of about twenty-five which flew over his shooting stand. The bird was not preserved. Townson has reported in the Toronto "Globe" for October 15, 1932, that he saw a Brant at Weller Bay on October 10 and again in the same paper for October 26, 1929, that four Brant appeared on Weller Bay on October 16, of that year. Also, Mr. Dave Mattice, a veteran hunter, reported that he shot a Brant on Weller Bay many years ago. The species is a rare and irregular visitor to the area.

Anser albifrons. WHITE-FRONTED GOOSE.—An immature individual of this species joined the flock of domestic geese owned by Mr. Dayton Murphy near Wellington on October 9, 1937. This bird was captured, tamed, and photographed, a copy of the photograph being on file in the R.O.M.Z. This is the only record of the species for the county and one of the few for Ontario.

Chen hyperborea. SNOW GOOSE.—A rare and irregular autumn visitor to Prince Edward County. Mr. Ernest Noble, who lives near Woodrour, reported a white goose, reported by him as a "Manitoba Wavey," which had visited his farm and remained with his domestic flock for a year or more. Mr. Roy Hogle saw a white goose while duck hunting on Massasauga Bay in October, 1934. These records probably refer to the Snow Goose. About thirty Snow Geese came into Weller Bay in late October of 1934 according to Mr. W. H. Lunn, and the late John Townson saw one at Weller Bay on October 27, 1930. Specimen material from areas adjacent to Prince Edward County in the R.O.M.Z. collection supports the records given above. Fleming and Lloyd (1920) have recorded an adult specimen (*C.h. hyperborea*) shot at Weller Bay on October 21, 1916, and formerly preserved in the now defunct Ontario Provincial Museum at Toronto.

Anas platyrhynchos. MALLARD DUCK.—Towards the end of March the Mallard returns to the marshes of Prince Edward County, coming back with the Black Duck which usually greatly outnumbered it (earliest, March 20, 1935). We saw Mallards irregularly during the summer of 1930. An occasional pair nests in the marshes of Prince Edward County. A rather complicated status prevails in the county as a result of the fostering of Mallards on farms; the progeny of semi-domestic Mallards go wild in the autumn. On the farm of Mr. G. S. Tayler, which is flanked by the marshy borders of West Lake, wild Mallards come in to feed with his poultry and frequently nest about his garden plots. In the autumn adults and young all leave him, probably to return the next spring. The recent increase of the Mallard has been most apparent in the fall, as observed by several hunters who frequent the area. Locally-reared birds no doubt have increased as suggested by the large

number taken on the opening days of the shooting season, before migrants arrive. The autumn occurrence of Mallards extends through November but the latest exact date available is November 11, 1939.

Nestling ♂ June 10, 1930, Hallowell. 3 ♂♂ June 10, 1930, Hallowell.

Anas rubripes. BLACK DUCK.—The most common duck of Prince Edward County, both as a transient and as a breeding bird. Small flocks have been noted as early as mid-March (1934). By early April, birds, presumably those which will remain locally for nesting, have been seen mating. In summer the species is found in both the marshes and swamps of the region. We noted them regularly in the summer of 1930. The earliest date on which young of the year have been seen, is May 24 (1933). The species congregates in large numbers in the bays during August and September.

Black Ducks furnish the main quarry of hunters in the county in autumn. Local hunters estimate that on the opening day (October 1) more Black Ducks are taken than all other species combined. At this time many of the "northern" ducks have not yet arrived. However, the Black Duck remains in the marshes until late in the fall (two, December 4, 1937, Pleasant Bay) and two were known to winter there in 1935.

A male specimen in the series of four from Prince Edward County, taken about November 1, possessed all characters attributed to the race, *A. r. rubripes*: Its legs were coral pink, the bill was blended from "deep colonial buff" to olive; the head and throat were coarsely marked with black and its weight was 1,729 gms. The other specimens, a female and two males, represent the common breeding form of the region. The average weight of the two males is 1,333 gms.

A Black Duck banded at Rochester, N.Y., on November 21, 1928, was shot near Wellington, Prince Edward County, on October 10, 1929 (Can. Field-Nat., Mar. 1932, p. 74).

♀ April 23, 1937, Wellington.

♂ about Nov. 1, 1933, Weller Bay.

♂ April 23, 1937, Wellington.

♂ Nov. 16, 1935, Huyck Bay.

Chaulelasmus streperus. GADWALL.—A rare transient in Prince Edward County, represented in the R.O.M.Z. collection by a single specimen. The species is most likely to be noted in autumn.

♀ Oct. 22, 1932, Weller Bay.

Mareca americana. BALDPATE.—A rather rare spring and fall migrant. Available early and late dates for both seasons are as follows,—March 30 (1934) and May 25 (1931); September 25 (1931) and October 20 (1931). The species is inclined to associate for feeding with diving ducks such as Scaups, Redheads, and Canvasbacks. Both the late John Townson and Mr. W. H. Lunn have related how this species profits by this association. Baldpates snatch the wild celery as it is brought to the surface by the diving ducks.

♂ (skeleton) Oct. 10, 1933, Weller Bay.

Dafila acuta. PINTAIL.—The Pintail is a fairly plentiful migrant, perhaps the most numerous of the non-breeding sporting ducks with the exception of the Scaups and the Green-winged Teal. Although available seasonal records from Prince Edward County are not sufficiently complete to present exact times of arrival and departure, they indicate that the species is to be expected in the spring from late March through most of April. They reappear on their fall migration in early September and remain until about mid-November. The Pintail ranks about third in the sportsman's bag on opening day, October 1, following the Black Duck and Blue-winged Teal in that order. Many transient species are, of course, not present so early in the season.

♂ May 4, 1936, Wellington.

Nettion carolinense. GREEN-WINGED TEAL.—A relatively common transient which arrives in the spring during late March and remains well into April (April 10, 1911). Its return in the autumn is to be expected in late September and its stay is protracted, usually until freeze-up in late November or early December. Like most ducks, Green-winged Teal have decreased of recent years but periods of large numbers have occurred in recent years. In the fall of 1935 and again in 1936 they were reported at Weller Bay in thousands. This probably indicated concentration rather than a general increase. A male specimen secured at Wellington on May 4, 1936, was heavily infected with protozoan parasites which were embedded in the breast muscles. According to Dr. Murray Fallis they represent the genus *Sarcocystis*, the species recorded from ducks being

S. rileyi. Substance obtained from this group of organisms (sarcocystin) is known to be lethal to mice but little is known of the effect of this parasite on ducks.

♂ May 4, 1936, Wellington.

♀ Oct. 8, 1933, Weller Bay.

♂ (skull and wing) Oct. 8, 1933, Weller Bay.

2 ♂♂ Oct. 26, 1933, Huyck Bay.

Querquedula discors. BLUE-WINGED TEAL.—A not uncommon breeding duck of Prince Edward County which returns to the marshes in the spring by the end of March (March 28, 1935). We noted it occasionally during the summer of 1930. A female collected on June 14, 1930, possessed an egg in the oviduct. This was our only evidence of breeding but it is generally conceded that the marshes of the county have long been a breeding ground for Blue-winged Teal. The fall migration starts during September and according to shooters perhaps half of the annual population is gone by October 1, the opening date of the hunting season. Nevertheless, the species takes second place to the Black Duck in the opening day's bag. Recent reports indicate a general increase, especially notable in the autumn of 1938. By October 15 the species usually has gone from the marshes of Prince Edward County although Mr. W. H. Lunn observed a few in late October, 1939. Several Blue-winged Teal banded by Mr. Dayton Murphy near Wellington have been recovered in the West Indies,—Barbados, Trinidad, etc.

♀ April 23, 1937, Wellington.

♀ June 14, 1930, Hallowell.

♂ April 23, 1937, Wellington.

Spatula clypeata. SHOVELLER.—A rare transient, noted occasionally in spring (♀, "Spring," 1899?, N.M.C.) and fall. One remained until June on West Lake near the home of Mr. Dayton Murphy in 1935; Mr. R. J. Rutter noted two on May 25, 1931; and the late J. Townson saw three on September 15, 1931. The species has been noted in October by Dr. H. M. Bowen in East Lake and by Mr. W. H. Lunn in West Lake.

Aix sponsa. WOOD DUCK.—A regularly observed species which is greatly reduced in numbers from former times (Gourlay, 1910) but with protection seems now to be maintaining a small, stable

population. Such places as Crooked Creek, a small stream flowing through low woodland into the north-west end of Consecon Lake was formerly a well-known breeding area for the species. A few pairs breed there now. We did not note it during the summer of 1930. A female in the N.M.C. was taken at Bloomfield on July 1, 1900.

Wood Ducks return to the area in early spring (March 30, 1936). The habits of this species render it rather liable to accidental capture in muskrat traps at this season, a fact brought out by several reports. Apparently many of the spring birds observed pass on to breeding grounds on the forested mainland to the north. These transients are again to be found in the bays by mid-September. It has not been observed after November 15 in autumn.

Nyroca americana. REDHEAD.—Formerly migrating Redheads gathered in vast flocks in the open bays of Prince Edward County but now they are scarce. A few are to be expected each spring, often associated with the rafts of Greater Scaup Ducks, after mid-March. Usually, by the end of April, they have passed on to their breeding grounds (latest, several, May 13, 1934). The species is present again in autumn, during October. Mr. W. H. Lunn has noted the Redhead fairly early in September, some years ago, but they are not now to be expected much before early October. Mr. Hubert Townson observed them in fairly large numbers on October 20, 1931, at Weller Bay. Mid-November probably represents the end of their stay in the area.

An interesting story in connection with the hunting of Redheads in the early days, before market shooting was outlawed, was related to the writer by the late John Townson. During his first hunting trip to Prince Edward County, in October, 1876, he saw hunters practise what was called "toling ducks." A small dog was trained to jump repeatedly over a low hurdle on shore near where the hunters were concealed. This performance excited the curiosity of a large flock of several hundred Redheads off shore. The flock moved in thus bringing them within range of the hunters' guns.

2 ♀ ♀ April 23, 1937, Wellington.

2 ♂ ♂ April 23, 1937, Wellington.

♀ Oct. 26, 1907, Weller Bay.

♂ Oct. 26, 1907, Weller Bay.

♀ Nov. 10, 1936, Weller Bay.

Nyroca collaris. RING-NECKED DUCK.—A close estimate of the relative numbers of this species is difficult since many duck-hunters in the county, past and present, have not discriminated between it and the Lesser Scaup Duck. It is apparently a regular spring and fall migrant, found in the marsh during April and early May and again in October and early November. It is somewhat more common in recent years.

♂ May 3, 1936, Wellington.

Nyroca valisineria. CANVAS-BACK.—A regular but rather scarce migrant. Formerly it appeared in the Bay of Quinte and other of the larger bays of the county in immense flocks. Now, Canvas-backs are found frequently as small minority associates of the Greater Scaup. They are to be expected in early spring, after mid-March (March 17, 1938) and may be present through the month of April. In the autumn they are again present in October and well into November.

Nyroca marila. GREATER SCAUP DUCK.—The most plentiful of all the non-breeding sporting ducks which pass through Prince Edward County, in the spring and in the fall. The species appears on the bays about the middle of March ("advance guard," March 13, 1936) or as soon as the ice breaks up. It remains commonly until mid-April. After April they have largely passed on although a male, taken on May 19, 1908, at Sand Banks, is in the N.M.C. and the species has been noted as late as May 21 (1934). Early in October they return, to remain at least until the second week of December (December 10, 1925).

Although the Greater Scaup is not as abundant as in former times it still appears in large numbers. Mr. W. H. Lunn states that he estimated five thousand in a flock on West Lake about April 1, 1936. Large flocks were reported from other bays of the county during the same period (Weller Bay, Pleasant Bay, and Bay of Quinte).

♀ April 5, 1936, Wellington.

♂ April 5, 1936, Wellington.

♂ (skeleton) April 12, 1938, Wellington.

♂ April 19, 1937, Wellington.

2♂♂ about April 20, 1936, Wellington.

♀ April 23, 1929, Weller Bay.

♂ April 23, 1929, Weller Bay.

Nyroca affinis. LESSER SCAUP DUCK.—Although indiscriminately grouped with the Greater Scaup and Ring-necked Duck by many hunters, reports indicate that this species is quite common both in the spring and in the fall. The species does not congregate in the large rafts which characterize the Greater Scaup Duck. Twenty birds constitute a fair-sized flock though smaller groups are still more common. March 15, 1935, is an early spring arrival date among our records. The end of March is a more usual time of arrival. The Lesser Scaup remains rather late in the spring (40, May 15, 1934). We saw six on West Lake on May 24, 1930, and a pair of ducks thought to be of this species was noted as late as June 5. We have no breeding evidence pertaining to this area. The species can be expected again in the autumn after September. According to the records of the late John Townson, the earliest in 1931 was October 8.

♀ April 23, 1929, Weller Bay.

♂ April 23, 1929, Weller Bay.

Glaucionetta clangula. COMMON GOLDEN-EYE.—Not uncommon as a migrant but our records are too indefinite to give many specific dates. It apparently winters where there is open water on Lake Ontario and converges on the bays of Prince Edward County in mid-March when ice conditions open up. Dr. H. F. Lewis saw 6+ on March 17, 1938, near Wellington. Mr. R. J. Rutter saw two as late as May 25, 1931. The first to be seen in the autumn of 1931 by the late John Townson was eight on September 25. The species remains in the region until driven out by the freeze-up.

♂ April 5, 1936, Wellington.

Charitonetta albeola. BUFFLE-HEAD.—A rather rare but regular migrant in the county; formerly more common. They are to be expected in April and early May and again in the autumn from mid-October to mid-November.

♂ April 28, 1937, Wellington.

Imm. ♂ April 29, 1937, Wellington.

♀ April 29, 1937, Wellington.

Clangula hyemalis. OLD-SQUAW.—Open water conditions apparently determine the winter status of this species. It arrives from its Arctic breeding grounds in late autumn (November 1, 1931). Dur-

ing some years local conditions allow these birds to winter in the region. A December record is catalogued below and Mr. Frank Brimley saw one at Wellington on February 24, 1912. It has departed for the north by early May.

♀ Nov. 10, 1936, Weller Bay.

♂ Dec. 15, 1936, Wellington.

Somateria spectabilis. KING EIDER.—So far as is known this species is only an occasional late fall visitor to Prince Edward County. It is possible that they may occasionally winter in the region, if open conditions prevail in the waters surrounding the county.

Imm. ♀ Nov. 8, 1930, Weller Bay.

Melanitta deglandi. WHITE-WINGED SCOTER.—This is the only Scoter for which we have specimen records from Prince Edward County. It is of regular occurrence in spring and in late fall. The species resorts most frequently to the open lake where it is not commonly seen. Large numbers are drowned in fishermen's nets occasionally. Mr. Dan Greenfield reported approximately three hundred in one haul during May, 1938. Mr. Dayton Murphy, who formerly operated a fishing boat on Lake Ontario, states that he once met a flock of these birds sixteen miles out in the lake from Wellington "in the summer." In such a case the birds would be non-breeding individuals.

♂ May 19, 1939, Wellington.

Imm. ♂ Oct. 20, 1932, Weller Bay.

Skull, June 3, 1937, Wellington.

♀ Nov. 9, 1937, Wellington.

2 skulls, June 7, 1937, Wellington.

Melanitta perspicillata. SURF SCOTER.—Mr. William Carrell, a well-informed naturalist and hunter who formerly lived in Prince Edward County, informs me that this scoter occurred on Lake Ontario bordering the county in his day. Undoubtedly they still appear in these waters, particularly in late autumn, but we have no recent records.

Oidemia americana. AMERICAN SCOTER.—Mr. William Carrell states that this species is also a migrant occurring in the waters of the county. We have three specimens in the R.O.M.Z. collection

taken from a flock of fifteen on November 15, 1935, in Brighton Bay. This bay borders on Prince Edward County, though more strictly these specimens should probably be attributed to Northumberland County.

***Erismatura jamaicensis*. RUDDY DUCK.**—The Ruddy Duck is a rare spring and fall migrant (Carrell, 1910) in Prince Edward County. Apparently its occurrence has been very irregular in recent years. One record concerns five which came into the decoys of Mr. W. B. Smith, a veteran duck hunter of Bloomfield, in the fall of 1935. A male specimen reported to have been banded near Wellington on July 12 (!), 1938, was taken at Rush Lake, Sheboygan County, Wisconsin, in October of the same year. It is, of course, not of normal occurrence in Prince Edward County in summer.

***Lophodytes cucullatus*. HOODED MERGANSER.**—A regular spring and fall migrant which appears in pairs, or small flocks, in the marshes and along creeks. Like the Wood Duck this species not infrequently is caught in muskrat traps in the spring. A few appear in the spring after mid-March, the numbers increasing as the bays and creeks open up. Observations made in mid-August suggest that the species may summer in Prince Edward County but no definite evidence is available. They remain in the region in the fall well into November. Mr. W. H. Lunn saw two on December 4, 1937, at Pleasant Bay.

♂ March 25, 1935, Huyck Bay.

Imm. ♂ Nov. 18, 1935, Pleasant Bay.

***Mergus merganser*. COMMON MERGANSER.**—A not uncommon spring (April-May) and fall (October-November) migrant. No evidence of summer occurrence has been obtained although such might be expected since the species breeds within twenty-five miles of the county to the east. This merganser may winter within Prince Edward County waters if open conditions prevail.

***Mergus serrator*. RED-BREASTED MERGANSER.**—A common migrant appearing in April and remaining well into May (May 24, 1930). It returns in the fall about mid-October (see specimen list

below). The species often congregates in immense flocks in the larger bays of the county and is present until the freeze-up.

♀ May 3, 1936, Wellington.

♀ Oct. 19, 1934, Weller Bay.

♂ May 3, 1936, Wellington.

Astur atricapillus. GOSHAWK.—A fall and winter visitant to Prince Edward County to be expected during the periods when the species appears in southern Ontario generally. A brief history of recent occurrences is as follows: one specimen was collected in the fall of 1934 and Mr. Lunn saw one on January 25, 1935, near Wellington but a peak flight did not occur until the fall of 1935 (first seen on October 6). Many reports from throughout the county were received during this period. A somewhat lesser flight occurred in the fall of 1936 which produced records during the subsequent winter, 1936-7. Two specimens were taken in the fall and early winter of 1937-8. The appearance of this species, in greater or lesser numbers, each fall and winter since 1934 coincides with the period during which hares and grouse have been generally scarce in the north. It will be noted that all sexed specimens in the catalogue below are males.

Imm. ♂ Jan. 8, 1936, Hillier.

? (skull) Nov. 20, 1936, Wellington.

♂ Oct. 6, 1934, Weller Bay.

♂ Nov. 21, 1935, Hillier.

♂ (skull) Nov. ?, 1935, Hillier.

♂ Nov. 21, 1936, Hillier.

♂ Nov. 11, 1935, Hillier.

Imm. ♂ Nov. 23, 1937, Hillier.

♂ about Nov. 16, 1935, Hillier.

♂ (skull) Dec. 1, 1937, Hillier.

Imm. ♂ Nov. 17, 1935, Wellington.

Imm. ♂ Dec. 30, 1936, Hallowell.

Accipiter striatus. SHARP-SHINNED HAWK.—Our records of this species do not include any for the spring season. One specimen seen on the Gerow Gore on July 2, 1938, by Mr. H. H. Southam is our only summer record. The species occurs in the greatest numbers during September. Mr. W. H. Lunn observed one on January 1 in 1937 and another on January 24, 1938.

Imm. ♂ Oct. 11, 1932, Weller Bay.

Accipiter cooperi. COOPER'S HAWK.—Our only spring date for this species is April 20, 1901, based on a specimen from Hallowell in N.M.C. collection. It is a rare summer resident, observed by us on two occasions in early July, 1930, but appears regularly and

sometimes in fairly large numbers on migration in the autumn. It is a rare and probably an irregular winter resident.

♀ about Feb. 3, 1936, Wellington.

Buteo borealis. RED-TAILED HAWK.—No summer occurrences have been established by us although the species might be expected at that season. It is noted occasionally as a migrant, both in spring (April 9 to early May) and in fall (October to November 16). An occasional one winters in the area. Mr. W. H. Lunn saw an adult near Hillier on December 28, 1936.

Imm. ♀ Nov. 20, 1935, Pleasant Bay.

Buteo lineatus. RED-SHOULDERED HAWK.—A rare breeding species noted by us on three occasions during the summer of 1930. A young bird of the year was seen near Rednersville on July 16. The number of Red-shouldered Hawks is not greatly augmented by spring and fall migrants in Prince Edward County.

Imm. ? Aug. 13, 1931, Hallowell.

Buteo platypterus. BROAD-WINGED HAWK.—A spring and fall migrant. Noted most commonly between September 24 and October 25.

Buteo lagopus. ROUGH-LEGGED HAWK.—A regular migrant, most frequently noted in the fall. The earliest definite fall date available is October 19, 1934. The majority pass through the county in November.

Imm. ♀ Oct. 19, 1934, Weller Bay. ♂ Nov. 18, 1935, Wellington.

Aquila chrysaetos. GOLDEN EAGLE.—A rare and irregular fall visitor. A specimen shot by Mr. John Taylor in the fall of 1920, one mile south of Allisonville, was preserved and has been seen by Mr. W. H. Lunn. Another specimen, reported to have been taken at Huyck Point about 1933, was not preserved.

Haliaeetus leucocephalus. BALD EAGLE.—Two, perhaps three or more, pairs were nesting in Prince Edward County during our visit there in the summer of 1930. We discovered a nest, above

which an adult bird circled, on June 30. The location was not far from the lake shore about halfway along the peninsula of Marysburg (South) Township, known as "Long Point." A nest with two young was found on May 21, 1938, at Point Traverse, at the tip of "Long Point" by Mr. W. V. Crich. Fishermen at Point Traverse in 1930 assured us that a pair of Bald Eagles also nested on Timber Island off the end of the point that year. An earlier record of this site has been made by Macoun (1909). The late E. Beaupre of Kingston, Ontario, in his journal (MS.) tells of photographing an eagle's nest on Timber Island on June 6, 1917. He further states that, "according to available data the eagles are believed to have occupied this lonely and uninhabited island for more than a century." This is probably true from time immemorial and this general situation represents the last stand of the Bald Eagle on Canadian Lake Ontario. On July 5, 1930, two Bald Eagles were seen on one of the islands in West Lake near Hallowell but they were not known to nest in that sector of the county. There are numerous notes of spring and autumn observations of Bald Eagles among our Prince Edward County records but very few for winter. In the Toronto "Globe" for February 10, 1932, a report from Picton states that three Bald Eagles were wintering on Timber Island that year (1931-2). A Picton newspaper reported four of these birds making daily trips from Timber Island to the mainland in the winter of 1938-9. Mr. W. H. Lunn is of the opinion that the species is increasing its numbers of late.

Circus hudsonius. MARSH HAWK.—The commonest hawk of the county both in summer and during migration. The earliest record in spring among our notes is March 16, 1935. Mr. W. H. Lunn states that the species is not as common as in former years, a comment which probably applies to hawks in general. We saw from one to four individuals nearly every day throughout the summer of 1930. On July 2, the writer observed an adult female Marsh Hawk pass a food object to a young bird flying beneath it. On this occasion the young bird missed and did not attempt to retrieve the meal.

Although the autumn migration of Marsh Hawks largely takes place from late August (August 29, 1934) to late October (October 7,

1931) later occurrences have been noted (latest, several on November 13, 1939).

In our series of four females collected in Prince Edward County, two showed paired ovaries on dissection.

| | |
|------------------------------------|----------------------------------|
| ♀ about Apr. 12, 1937, Wellington. | Imm. ♀ Aug. 21, 1931, Hallowell. |
| ♂ May 23, 1930, Hallowell. | Imm. ♂ Aug. 21, 1931, Hallowell. |
| ♀ July 16, 1930, Ameliasburg. | ♀ Oct. 24, 1935, Huff Island. |
| ♂ Aug. 8, 1899, Bloomfield. | |

Pandion haliaetus. OSPREY.—An uncommon migrant, to be expected about the shores of Prince Edward County in May and in September. It is not known to summer in the county regularly, although one was shot about August 15, 1940, at Sand Banks and seen by Mr. Farley Mowat.

♂ Sept. 28, 1929, Cherry Valley.

Falco rusticola. GYRFALCON.—On November 18, 1934, Mr. Frank Brimley of Wellington, a naturalist, long resident in the county, saw a white-plumaged gyrfalcon on the shores of Lake Ontario. The bird had a piece of string caught on one foot which Mr. Brimley concluded was a piece of fish net accidentally entangled there. Although this fact might suggest that the bird had been captive it seems more unlikely to the writer than Mr. Brimley's explanation. Certainly the date and place make it possible that the observation was of a wild bird.

Falco peregrinus. PEREGRINE FALCON.—A rare migrant in the fall. Our earliest arrival date is September 21, 1931, and the species can be expected occasionally through October. We have no records for other seasons.

Falco columbarius. PIGEON HAWK.—A rare spring and fall migrant to be expected in April and again in October. No exact dates for spring are available but Mr. J. L. Baillie saw one at Weller Bay on October 24, 1932.

Falco sparverius. SPARROW HAWK.—An uncommon species, more likely to be seen during migration than in summer. Our earliest spring record of a migrant is April 10, 1934. Mr. Frank

Brimley noted one on February 9, 1912, apparently a wintering bird. We did not observe it during the entire summer of 1930 but a nesting pair was found by Mr. W. H. Lunn near Niles Corners in the summer of 1935. October 4, 1934, is our only exact fall migration date.

♀ about Apr. 12, 1937, Wellington.

Bonasa umbellus. RUFFED GROUSE.—Formerly an important element in the avifauna of the region but now restricted to the larger wooded tracts found scattered through the county. Although the population of grouse varies periodically it is never sufficiently large to make this bird plentiful game. We noted it irregularly in the summer of 1930 and three, including young of the year, were the most seen on any one day. Mr. Frank Brimley has a set of eight eggs collected near Wellington on June 18, 1911.

Of the four specimens from the county in our collection, two are of the grey phase and are quite typical of the form *B. u. togata*. The others represent the red phase of the same form.

♂ Jan. 13, 1937, Hillier.

♀ Jan. 29, 1937, Hillier.

♂ Jan. 21, 1939, Wellington.

♂ Feb. 1, 1938, Wellington.

Perdix perdix. EUROPEAN or GRAY PARTRIDGE.—Major W. G. A. Lambe, who formerly owned and lived on Nicholson Island, made an attempt to establish this species there in 1922 or 1923. Two or three broods were known to have been reared, but it is supposed that the stock escaped to the mainland. In 1925 the Provincial Department of Game and Fisheries introduced this partridge on the mainland. The only Prince Edward County records we have been able to establish are of three seen near Con-secon by Mr. Dan Mattice about 1927; and in November, 1937, Mr. A. J. Holsey of Trenton saw a "flock" near Carrying Place. The success or failure of establishing this species in the county is yet to be determined.

Phasianus colchicus. COMMON PHEASANT.—This pheasant has been introduced into Prince Edward County by local residents who secured eggs from the Ontario Department of Game and Fisheries. The first of such introductions was made in the summer of 1920 or

1921. By the time of our visit in 1930 it was well established and we noted from one to four daily. The extensive fields of garden peas found in the county are a regular resort of pheasants and the single specimen collected had its crop filled with peas. Extensive marshland where they nest, together with cultivated fields interspersed with thickets and woodlots, make Prince Edward County one of the best areas in the province for pheasants and one would expect that they will flourish there.

♂ July 14, 1930, Hallowell.

Rallus elegans. KING RAIL.—Many years ago Mr. William Carrell, a keen observer of birds, who resided then in Wellington, was aware that King Rails were found in the Prince Edward marshes. Some question on this point was raised by the late C. W. Nash in conversation with Mr. Carrell in 1916. At the first opportunity Mr. Carrell collected a specimen (March 28, 1917; see Fleming and Lloyd, *loc. cit.*) and forwarded it to Mr. Nash then of the Ontario Provincial Museum. The specimen, now in the R.O.M.Z., not only established the occurrence of the species there but it constituted one of the earliest spring records for the province.

Although we did not meet with the King Rail during the summer of 1930 it still occurs in the extensive marshes of the county which, according to auditory evidence, harbour the largest population of Rails the writer has ever encountered. The Rev. H. H. Barston has observed it there in recent years.

? Mar. 28, 1917, Wellington.

Rallus limicola. VIRGINIA RAIL.—A common summer bird of the marshes of Prince Edward County. Although the species scarcely needs proof of its breeding status in the county, mention can be made of a fully formed egg in the oviduct of the female collected. No migration data are available, but the late John Townson noted one Virginia Rail on Consecon Creek, September 14, 1931.

♂ May 28, 1930, Hallowell.

♀ June 13, 1930, Hallowell.

♂ June 10, 1930, Hallowell.

Porzana carolina. SORA RAIL.—A very common bird of the marshes in summer. The female of a pair collected on May 24, 1930, had a well-developed egg in the oviduct. Our two non-summer records for this species are, two birds seen on Consecon Creek by the late John Townson on September 14, 1931, and a specimen in the N.M.C. taken near Picton on September 15, about 1909.

♀ May 24, 1930, Hallowell.

♀ May 28, 1930, Hallowell.

♂ May 24, 1930, Hallowell.

♀ July 3, 1930, North Bay.

Gallinula chloropus. COMMON GALLINULE.—The Common Gallinule usually arrives in spring after mid-April and by mid-May it is a common and vociferous member of the marsh communities of Prince Edward County. We noted it regularly and in many of the marsh areas visited. A set of fresh eggs was collected at Hallowell on May 31, 1930. Downy young, swimming about, were first observed on June 27, near Hallowell. Among our autumn records there is a report of nine Common Gallinules seen on September 14, 1931. The species has largely disappeared through fall migration after mid-October.

♂ May 23, 1930, Hallowell.

Downy ♀, June 27, 1930, Hallowell.

Downy ♂ July 4, 1930, Hallowell.

Fulica americana. AMERICAN COOT.—Our earliest record for the Coot in spring is March 28, 1936. It is most common from mid-April to mid-May. Our latest spring date is May 22, 1934. We did not see the species after May 20 in 1930. Statements that this species breeds in the county are unsubstantiated; therefore we can but regard it as a regular, and plentiful, migrant. Our earliest autumn record is that of Mr. Stuart Thompson, who noted the species in Prince Edward County between August 30 and September 1, 1930. Coots are regularly and commonly present from mid-September to well into November (twenty on West Lake, November 22, 1935).

Charadrius melodus. PIPING PLOVER.—Prince Edward County is one of the few known breeding stations of this species in Ontario and as far as is known, the only important one on Canadian Lake Ontario at the present time. The late E. Beaupre collected a

set of partially incubated eggs, at Consecon on May 26, 1926, which is now in the R.O.M.Z. collection. In his notes he remarks that he and the late Rev. C. J. Young found five breeding pairs established there on June 9, 1924. We found a pair on the beach of the sandy spit which forms the barrier between West Lake and open Lake Ontario on May 24, 1930. One of the birds flushed from a shallow "nest" depression in the gravel-strewn beach. The amount of apparently suitable shoreline in the county suggests that here is an area where this species can continue to exist for some time.

♀ May 24, 1930, Wellington.

♂ May 24, 1930, Wellington.

Charadrius semipalmatus. SEMIPALMATED PLOVER.—A fairly common spring and fall migrant which passes through the county from about mid-May to the end of the month (three on May 28, 1930) and reappears again on its southward migration from late July to mid-September (four on September 13, 1931).

♂ May 23, 1930, Hallowell.

Oxyechus vociferus. KILLDEER.—A common summer resident which arrives in early spring (one on March 16, 1935). We noted the species daily in 1930, fifteen being the largest daily total. A set of four fresh eggs was taken at Bloomfield on June 6. Young just out of the egg were first noted on June 11. Most of the Killdeer have departed for the south by mid-October, but the late John Townson reported that they were still present in the county on October 27, 1930.

♀ May 26, 1930, Hallowell.

Downy ♀ June 11, 1930, Hallowell.

♂ May 26, 1930, Hallowell.

2 downy ♂♂ June 11, 1930, Hallowell.

Pluvialis dominica. GOLDEN PLOVER.—The only recent records are those of Mr. W. H. Lunn who noted one on October 13, 1934, and a small flock on October 12, 1935, at Pleasant Bay. Apparently the species can be expected regularly but only as a rare autumn migrant.

Squatarola squatarola. BLACK-BELLIED PLOVER.—A regular but not a plentiful spring and fall migrant. It can be expected after mid-May. We saw a flock of twenty-five on May 29 in 1930

and a lone bird on June 4; the latter constitutes our latest spring record. The species reappears on its southward flight in late summer. The late John Townson saw it fairly regularly in flocks comprised of from six to forty, from September 13 to October 29 in 1931. Early October was the period when the largest number passed through that year.

♀ about Oct. 6, 1934, Weller Bay. ♀ Oct. 15, 1926, Weller Bay.

Arenaria interpres. RUDDY TURNSTONE.—A regular and fairly common migrant through Prince Edward County. In spring it is to be expected from mid-May to early June. We noted the species on May 24 in 1930; Mr. R. J. Rutter observed it on May 25 in 1931; and the late Edwin Beaupre had noted it on June 11, 1924. It has been observed in flocks of from three to seven individuals between September 20 and October 4 (1931).

2 (skulls) June 3, 1937, Wellington.

Philohela minor. AMERICAN WOODCOCK.—Formerly a plentiful game bird in Prince Edward County in the fall (Gourlay, *loc. cit.*). The late John Townson told the writer that he recalled finding them very plentiful at Carrying Place on his first hunting trip to the county in October, 1876. Now, the species is rare even as a migrant. Apparently, only an occasional pair now breeds in the county. We did not as much as see the species during the summer of 1930. Mr. Townson informed the writer that a pair nested on the property of Mr. L. Young near Gardenville in 1931 and that a pair had been there for eight summers previous to that year.

♀ Apr. 16, 1938, Bloomfield. ? Nov. 6, 1937, Hillier.

Capella delicata. WILSON'S SNIPE.—This game bird is still hunted in Prince Edward County in the autumn although in some years it is too scarce to provide good sport. Formerly it was very plentiful. A record in the R.O.M.Z. files states that a hunter shot forty-five on October 5, 1876, at Carrying Place. Aside from the migrants which pass through the region in spring and fall, a scattered local population remains to breed in the swales and marsh borders of the county. We saw from one to eight birds daily throughout the summer of 1930 and were able to establish its status

as a breeding bird. Our earliest spring date is April 6, in 1933 and in 1935. In these two years the first birds noted were performing the nuptial flight. A set of four eggs in the R.O.M.Z., taken on May 14, 1938, was apparently fresh or nearly so. Young birds with undeveloped powers of flight were first noticed on July 9, 1930. The species is to be found in the autumn at least through October. Mr. W. H. Lunn saw one at Pleasant Bay on November 13, 1939.

| | |
|--|---|
| ♂ June 5, 1930, Hallowell. | 2 ♂ ♂ (1 skull) Oct. 8, 1933, Weller Bay. |
| ♂ July 9, 1930, Hallowell. | ? Oct. 8, 1933, Weller Bay. |
| 2 Juv. ♂ ♂ July 9, 1930, Hallowell. | 3 ♀ ♀ Oct. 8, 1934, Weller Bay. |
| 3 ♀ ♀ (2 skeletons) Oct. 8, 1933, Weller Bay. | 2 ♂ ♂ Oct. 8, 1934, Weller Bay. ♂ about Oct. 24, 1938, Weller Bay. |

Phaeopus hudsonicus. HUDSONIAN CURLEW.—There are few recent positive records of this species although it is to be expected as a rare spring migrant in late May (four seen by Mr. R. J. Rutter on May 25, 1931) and early June (noted by the late E. Beaupre on June 11, 1924). It is to be expected in late summer until mid-September.

♀ Sept. 17, 1934, Weller Bay.

Bartramia longicauda. UPLAND PLOVER.—Prince Edward County (and the mainland region north of this county) still maintains a fair number of Upland Plover. The shallowness of the soil overlying the limestone of this region prevents cultivation of extensive areas from which the forest has been cleared. Such situations are usually employed as pasture which not infrequently becomes overgrown with tall grasses. The species has been discovered as a breeding bird near Mountain View, Allisonville, Bloomfield, along the south shore of Consecon Lake, and the east shore of Weller Bay.

In spring the Upland Plover can be expected back to the county by mid-May (about May 1 to May 12). Full complements of eggs are usually complete by the last week of May (May 25, 1935, set of four eggs, Allisonville, Rev. C. J. Young collection, R.O.M.Z.). A partial set in the R.O.M.Z., taken on June 2, 1936, was well advanced in incubation. We saw downy young with well-developed pin feathers on July 2 in 1930. Their long necks and rapid running gait suggested to us their resemblance to miniature ostriches. By mid-July the species is inclined to leave the nesting area and in early

August, migration is definitely under way. Near the end of this month the species has practically disappeared on its southward migration.

♂ July 2, 1930, Mountain View. 3 Juv. ♂♂ July 2, 1930, Mountain View.

Actitis macularia. SPOTTED SANDPIPER.—A well-distributed and common summer resident shorebird in Prince Edward County. Our earliest spring arrival date is May 9, in 1934 and 1935. The individuals which settle in the county for nesting are usually so engaged by the last week of May. However, we found fresh eggs as late as June 25, in 1930. Their southward disappearance is usually evident by October.

♀ June 25, 1930, Sand Banks. Imm. ♂ July 16, 1930, Rossmore.

Tringa solitaria. SOLITARY SANDPIPER.—A regular spring and fall migrant in the county which may be discovered, as the name implies, as solitary birds here and there in suitable swamp areas. Our earliest spring record is May 12, 1934, and the latest spring record is June 1 of the same year. The species reappears on its southward migration by mid-summer (one, July 14, 1930) and has apparently passed through by mid-September.

Two males taken in the county in autumn represent the race *T. s. solitaria*. These specimens are in the N.M.C.

Totanus melanoleucus. GREATER YELLOW-LEGS.—According to our records this species is much more plentiful than is the Lesser Yellow-legs. It is a migrant in the county which appears in spring during the period from late April (April 29, 1933) to late May (eleven seen May 29, 1930). In the autumn the species reappears by September 13 and is present until well into October. Our latest fall date concerns one seen by Mr. W. H. Lunn on November 21, 1937.

♀ about Oct. 6, 1934, Weller Bay. ? Oct. 14, 1935, Hillier.

Totanus flavipes. LESSER YELLOW-LEGS.—Probably because of insufficient opportunity to gather annual records from Prince Edward County we have none on this species for the spring season. It should be looked for during early May. The southward migration

is marked by the following records: first seen in 1934 on July 23 and last seen on September 13 in 1931. Two August specimens in the N.M.C. were taken at Sand Banks and Hallowell in 1901.

Calidris canutus. KNOT.—A single record of the Knot from Prince Edward County has come to the writer's notice among the random collection of notes of many naturalists. The late E. Beaupre wrote in his diary, under date of June 6, 1926, that he saw one Knot on Green Island on that date. There is no apparent reason why this species should not be found regularly but probably not commonly, in Prince Edward County in late May and again in late August.

Pisobia melanotos. PECTORAL SANDPIPER.—Apparently a rare spring migrant (one on May 21, 1931, seen by Mr. R. J. Rutter) but fairly plentiful in the fall. Our earliest record is that of a small flock seen by the late John Townson on September 13, 1931. Our latest record is also one of Townson's, a few having been noted by him on October 29 of the same year. The southward flight is apparently most pronounced during early October.

♂ Oct. 12, 1935, Pleasant Bay.

Pisobia fuscicollis. WHITE-RUMPED SANDPIPER.—This species is apparently a rare migrant in Prince Edward County. Two sight records of it are all that admit it to our list. Mr. R. J. Rutter saw one on May 25, 1931. On August 1, 1933, one White-rumped Sandpiper was identified by Mr. W. H. Lunn in a small flock of Least Sandpipers near Hillier. Incidentally this is a remarkably early date for the southward migration, but all circumstances concerning Mr. Lunn's observation seem to leave no question of mistaken identity.

Pisobia minutilla. LEAST SANDPIPER.—A regular and common spring migrant which occurs most plentifully after mid-May. The late E. Beaupre noted it as late as June 11 in 1924. In the autumn it reappears by August 1 and it has largely passed southward by mid-September. Mr. Lunn has noted the species as late as October 13 (in 1934).

♀ May 23, 1930, Hallowell.

♀ May 25, 1931, Weller Bay.

***Pelidna alpina*.** DUNLIN.—A common spring and fall migrant. Our records are too incomplete to mark arrival and departure dates in spring but the species is most plentiful in spring after mid-May until the end of the month (May 28, 1930). The late John Townson saw the first fall flock in 1931 on October 3. His latest fall record is of a few noted on October 29 of the same year.

3 ♂♂ May 23, 1930, Hallowell.

***Ereunetes pusillus*.** SEMIPALMATED SANDPIPER.—Consequent to the lack of opportunity to obtain records of birds systematically throughout the year in Prince Edward County, the status of many migrants is imperfectly known, even for species which probably are regular and not uncommon. Our data on the Semipalmated Sandpiper are good examples. It is known to occur in spring and fall but our exact records concern only twenty-five noted by Mr. R. J. Rutter at Weller Bay on May 25, 1931, and an observation of the species between August 30 and September 1, 1930, by Mr. Stuart Thompson. The specimen listed below adds another spring date.

♂ June 7, 1931, Weller Bay.

***Limosa haemastica*.** HUDSONIAN GODWIT.—A rare migrant concerning which we have no other data than the collected specimens catalogued below.

♂ Oct. 12, 1932, Weller Bay.

♀ Oct. 12, 1932, Weller Bay.

***Crocethia alba*.** SANDERLING.—Although the Sanderling occurs in spring (to be expected in late May) we have no exact data for that season. It is a fairly plentiful fall migrant. Our earliest record is that of Mr. Stuart Thompson who noted it between August 30 and September 1, 1930. Considerable numbers of them pass southward in the county between September 23 and October 4 (1931). A flock of seven has been observed as late as November 5 (1930).

2? (skulls only) Oct. 2, 1937, Huyck Point. ? about Oct. 6, 1934, Weller Bay.

♂ Oct. 2, 1937, Huyck Point.

***Steganopus tricolor*.** WILSON'S PHALAROPE.—There are no recent records of this species which probably was always of rare

occurrence in the county. A specimen shot at Weller Bay in the fall (prior to 1911) is in a collection of mounted birds owned by Mr. R. C. Brett now of Steenburgh, Ontario.

Stercorarius parasiticus. PARASITIC JAEGER.—The occurrence of this jaeger in Prince Edward County is known from a single specimen tabulated below. The species is undoubtedly a rare and probably not a regular visitor to the open waters about the county in the non-breeding season.

Imm. ♂ Oct. 24, 1929, Wellington.

Larus marinus. GREAT BLACK-BACKED GULL.—Principally a fall and spring visitor to Prince Edward County, regular in occurrence and not uncommon in numbers. Its first arrival in the autumn can be expected toward the end of September (September 23 in 1931). They are to be found late in the season on the larger bays and occasionally they remain throughout the winter if open water prevails. One was seen about Wellington during the winter of 1936-7. The species occurs regularly in the early spring, as soon as the ice of Lake Ontario opens up. Three unusual summer season records have been made in the county. The late E. Beaupre of Kingston wrote in his journal concerning a trip he had made on June 7, 1927, to Scotch Bonnet Island, "I saw three Black-backed Gulls near the Bonnet but cannot say they are breeding there." In another portion of the diary, under the date of July 6, 1927, he wrote, "Visited Green Island—saw two Black-backed Gulls among the Herring Gulls." The Rev. Henry H. Barston writes (MS.) "Two years ago (1937) I saw immature Great Black-backed Gulls—two of them—all through August," near Wellington. These occurrences are very unusual and certainly concern non-breeding birds.

♂ Mar. 2, 1937, Wellington.

Larus argentatus. HERRING GULL.—This species is to be found in Prince Edward County at all times of the year when there is open water. For many years small numbers of Herring Gulls have nested on Scotch Bonnet Island in Lake Ontario, off Huyck Point, an occasional pair on Green Island in Prince Edward Bay, and on Timber Island off Point Traverse.

The late E. Beaupre visited the Scotch Bonnet on June 10, 1924, with the late Rev. C. J. Young. They discovered nine nests at that time, two of which contained three slightly incubated eggs. Again on June 7, 1927, Beaupre found five nests, one of which contained one egg. On June 6, 1926, Beaupre records that he and Mr. W. H. Coverdale found a nest containing four fresh eggs on Green Island.

Although we did not visit Scotch Bonnet or Green Island in 1930, a few Herring Gulls were said to be nesting on the former that year. About twenty nests were located there in the summer of 1929 according to Mr. Ed. Bailey. Although it is possible that during recent years a few nesting sites of this species are located in eastern Lake Ontario beyond Prince Edward County (see Macoun, 1909) these and the local colonies are insufficient to account for the Herring Gull population around Prince Edward County in late spring and summer. Mr. R. J. Rutter saw approximately five hundred at Weller Bay on May 25, 1931. During the summer of 1930 we observed an occasional congregation numbering in the neighbourhood of a thousand birds (June 25 and July 14). There is obviously a large population of non-breeding birds around this part of Lake Ontario in summer. Many birds seen during the summer of 1930 were immature (or subadult) and one bird collected was apparently a non-breeding individual.

♂ Mar. 2, 1937, Wellington.

♀ July 14, 1930, Pleasant Bay.

Sub-Ad. ♀ June 25, 1930, Sand Banks.

Larus delawarensis. RING-BILLED GULL.—Although this gull occurs in Prince Edward County in the spring, our data do not permit a statement as to numbers and the period when it is present. It is not to be expected in summer. A female in the N.M.C. collection was obtained in October, 1920. The species is a fall visitor to the county. Mr. W. H. Lunn reported several large flocks at Pleasant Bay in 1935.

Imm. ♀ Nov. 18, 1935, Pleasant Bay.

Larus philadelphia. BONAPARTE'S GULL.—A spring and fall visitor to the county. Few definite dates for spring are available but a late spring record by Mr. R. J. Rutter concerns six seen on

May 25, 1931. Apparently non-breeding birds do not summer in the region, at least regularly, since we did not observe the species in 1930. The late John Townson first noted the return of Bonaparte's Gull in the autumn of 1931 on September 20 (fifty to sixty were noted) and large numbers in early October, 1932. He reported in the Toronto "Globe" of October 26, 1929, that numbers were present on Weller Bay in mid-October of that year.

4 ♂♂ Oct. —, 1915, Wellington.

Sterna hirundo. COMMON TERN.—The Common Tern returns to Prince Edward County in early May and by the end of that month large numbers are to be found there. On May 25, 1931, Mr. R. J. Rutter estimated that from three to five thousand Common Terns had been seen that day.

At least three large nesting colonies have been established in the county for many years. One, the largest, is on Gull Bar near the False Ducks. Here, the late E. Beaupre observed Common Terns for a number of years and collected several sets of eggs, now in the R.O.M.Z., which show the extensive variation of size, colour, and markings. One set of three, collected on June 6, 1926, is soiled white in colour and unmarked except for one egg which is slightly and palely scrawled. An egg from another set (June 4, 1917) is 51 mm. in length and is very much tapered, similar to the egg of a murre in shape. One other set, taken June 15, 1926, has a striking "salmon-buff" background colour. It is normally patterned but with pigment which is abnormally red-brown in colour. Mr. H. H. Southam visited Gull Bar colony on July 5 and 6 in 1938 to band young terns. He estimated that there were approximately 2,500 young terns on the bar at the time.

Another colony was (and presumably still is) located on Green Island. One note in the Beaupre diary under date of June 27, 1922, concerns the finding of eighty-seven eggs washed out of nests on that island.

The third colony is, or was, on a gravel bar fronting Weller Bay from which we have a set of three eggs taken June 7, 1931, by Mr. R. J. Rutter. Recent information suggests that this site has been abandoned. Common Terns have for the most part left the county by late September.

♂ May 25, 1931, Weller Bay.

Hydroprogne caspia. CASPIAN TERN.—Small numbers of this species visit Prince Edward County regularly in the spring. May is the principal month of occurrence but occasionally they are observed in June. The late E. Beaupre saw one among the Common Terns at Gull Bar near the False Ducks on June 6, 1926. The only evidence that the species remains in this region to nest is that of the late Rev. C. J. Young who found a nest with one egg of this species in the Common Tern Colony on Gull Bar, June 6, 1917. We did not observe it during the summer of 1930. The only exact fall record available is of two seen at Weller Bay on August 25, 1938, by Mr. E. S. McIlwain.

Chlidonias nigra. BLACK TERN.—A common summer resident, to be expected back to the Prince Edward County marshes before mid-May and remaining until early September. In the summer of 1930 we found the species nesting in several sections of the West Lake marshes and also noted it widely distributed throughout the county where it was presumably similarly occupied. Of three sets of eggs in the R.O.M.Z. collection, the earliest, taken on May 28, 1930, was fresh. Another set taken on the following day was slightly incubated. August skin specimens are in the N.M.C. collection.

♀ May 27, 1930, Hallowell.

♂ July 14, 1930, Huyck Bay.

♂ May 29, 1930, Hallowell.

Uria lomvia. THICK-BILLED MURRE.—Fleming's report (1906) of the unusual incursion of this murre into Ontario in November, 1893, records its occurrence at Wellington, Prince Edward County, on the authority of Mr. Geo. R. White. A specimen in the N.M.C. collection was taken in the county about 1900 by Mr. M. Y. Williams. The county is so situated as to make it a natural place of occurrence in the event of other inland emigrations of this species taking place.

Columba livia. ROCK DOVE.—Introduced to the New World as a domestic bird, the common city or barn-yard pigeon (*C. l. livia* from Europe) is now essentially a wild resident bird in settled regions. They are to be found here and there, feeding about the fields and nesting principally around farm buildings of Prince Edward County.

Zenaidura macroura. MOURNING DOVE.—Our earliest spring arrival date of the Mourning Dove is March 27 (1936). The species is a fairly common summer resident of the county. We saw from one to six daily throughout the summer of 1930.

Nests have been found by Mr. J. F. Brimley in orchards near Wellington (set of eggs without date in his collection), and Mr. H. H. Southam has reported that on June 29, 1934, he found a nest with two eggs situated within the area covered by the Great Blue Heron colony on the Gerow Gore. The species is found about the fields after mid-summer and they remain until rather late in the fall. Mr. Chas. McFaul reported flocks near Allisonville on November 16, 1934, and Mr. W. H. Lunn states that a few sometimes winter in the county.

♂ June 30, 1930, Point Traverse.

Ectopistes migratorius. PASSENGER PIGEON.—This extinct species was once a common bird in Prince Edward County. Its local history is too incomplete to make it possible to present an historic annual calendar but it seems probable that it made its appearance in the region in April. Mitchell (1935) presents the statement from an observer in Prince Edward County who had seen a late May or early June flight passing to the westward which may not have been a local or daily movement but a migratory wandering at this date. In another section the author relates that these birds "came every-day to drink to lot 20, Con. 1, from the northeast, from the direction of the 'big swamp.' About 1876." This must pertain to birds established in summer, probably for nesting. Instances of nesting are mentioned for the vicinity of Hallowell. An autumn record is that of the late John Townson who related to the writer that he saw a few Passenger Pigeons at Carrying Place in October, 1876, during his first visit to the county. Another record of historic interest is that of Merritt (1908) who relates that Colonel Solmes once shot seventy-five birds with a single discharge from his flint lock musket, while hunting in the grain fields of Prince Edward County. Further he states that field crops were guarded against pigeon destruction. A single specimen of this once plentiful bird which was collected in Prince Edward County is in the R.O.M.Z. This specimen listed below was collected by Mr. Sam P. Morden.

Another bird shot about 1875 at Spencer Point, west of Wellington, by Mr. C. C. Spencer, is in his possession in Picton.

♂ fall of 1874, Huyck Point.

Coccyzus americanus. YELLOW-BILLED CUCKOO.—On June 12, 1930, five Yellow-billed Cuckoos were recorded during the day, apparently the first arrivals of the year. Mr. Frank Brimley has noted the species as early as May 27 (in 1913). This species is outnumbered by the Black-billed Cuckoo as a summer resident, but we found it established here and there in the county at this season.

An egg of the Yellow-billed Cuckoo was found in the nest of a Black-billed Cuckoo on June 23, and on June 29, 1930, Mr. Brimley saw a Yellow-billed Cuckoo on its nest near Consecon.

♀ June 12, 1930, Hallowell.

♂ June 12, 1930, Hallowell.

Coccyzus erythrophthalmus. BLACK-BILLED CUCKOO.—A fairly common breeding bird of the county. We first noted its return in 1930 on May 24. Nest-building was first observed on June 15 at Hallowell although this observation concerned a nest which was nearly complete on that date. On June 23 this nest contained two eggs plus one egg of the Yellow-billed Cuckoo.

♂ May 24, 1930, Hallowell.

♂ July 17, 1930, Wellington.

Nestling ♂ June 26, 1930, Hallowell.

Otus asio. AMERICAN SCREECH OWL.—A rather scarce species in Prince Edward County but present at all seasons (see catalogue below and Carrell, 1908). A female in the collection is plainly intermediate between the red and grey phases.

Juv. — about 1900, Bloomfield.

♀ Feb. 10, 1934, Wellington.

? Feb. 2, 1937, Wellington.

♂ (skeleton) Mar. 7, 1936, Hillier.

Bubo virginianus. HORNED OWL.—A resident of the county at all seasons, and described as nesting by Mr. Edward Bailey who had observed a nest with two young a few years previous to our visit. Most numerous in the winter at which time the local population may be augmented by emigrants from the north. An influx took place in the fall of 1936. Local breeding birds are clearly of the *B.v. virginianus* form but paler and whiter birds taken in winter

are in the Prince Edward County collection. These are presumably from the north and represent the form *B. v. subarcticus*.

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| ♂ Jan. 10, 1934, Hillier. | ♀ Oct. 14, 1933, Wellington. |
| ♀ Jan. 13, 1937, Hillier. | ♀ Oct. 17, 1936, Wellington. |
| ♀ Apr. 1, 1933, Hillier. | ♂ Nov. 11, 1935, Wellington. |
| Juv. ♂ Apr. 24, 1933, Hillier. | ♂ Dec. 2, 1937, Demorestville. |
| ♀ Apr. 24, 1933, Hillier. | |

Nyctea nyctea. SNOWY OWL.—A periodic winter visitant. The four specimens listed below plus a report of one shot in December, 1930, indicate roughly most of the more recent periods of incursion. Undoubtedly the extensive marshes and beaches of Prince Edward County make an attractive resort for these Arctic birds during the period of their stay. The latest date in spring which marks the close of their stay in 1938 is that of Mr. W. H. Lunn at Pleasant Bay, on May 23. The incursion during the autumn of 1937 and through the subsequent winter was, from reports, a very pronounced one.

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| — about Jan., 1921, Hillier. | ♂ Nov. 20, 1937, Hillier. |
| ♂ Mar. 29, 1938, Wellington. | ♀ Nov. 23, 1934, Garrett Island. |

Surnia ulula. HAWK OWL.—A rare and irregular visitor to Prince Edward County from the north. A female specimen from the county proved to be of particular interest since it proved on dissection to possess paired ovaries. The right ovary was smaller than the normal left and measured approximately 7 mm. in length (November).

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| ♂ Oct. 24, 1935, Hillier. | ♀ Nov. 23, 1935, Bloomfield. |
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Strix varia. BARRED OWL.—Available data on this owl refer to the autumn and winter at which seasons the species is most apt to be observed due to the periodic influx of individuals from more northerly districts. The Barred Owl may occur in the larger woods in summer although we have no positive records of it.

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|---------------------------|------------------------------------|
| ♀ Jan. 23, 1937, Hillier. | ♀ about Oct. 28, 1935, Weller Bay. |
| ♀ Mar. 8, 1890, "P.E.Co." | ♀ Nov. 23, 1935, Bloomfield. |

Asio wilsonianus. LONG-EARED OWL.—Although this owl might be expected rarely at any season our records (including the

specimen listed below) both concern winter occurrences. Mr. W. H. Lunn observed one near Wellington in early winter about 1924.

♀ Dec. 28, 1937, Wellington.

Asio flammeus. SHORT-EARED OWL.—An occasional autumn visitor to Prince Edward County. Mr. W. H. Lunn noted one at Pleasant Bay on October 13, 1934, and one at the same place on November 13, 1939. Other records are given in the catalogue below.

Imm. ♀ about Oct. 22, 1938, Weller Bay. ♂ about Nov. 16, 1938, Wellington.

Cryptoglaux funerea. LITTLE BOREAL OWL.—A single specimen of this owl, listed below, is the only record we have for the county.

? about Oct. 27, 1931, Picton.

Cryptoglaux acadica. ACADIAN OWL.—Mr. W. H. Lunn states that a specimen of this species was killed in 1933 by Mr. Norman Clinton at Wellington. One other record appears in the catalogue below.

♂ Mar. 9, 1940, Consecon.

Antrostomus vociferus. WHIP-POOR-WILL.—A vanishing species, not noted by us during the summer of 1930. Twenty-five years ago the species was observed more regularly than it is today. May 4 (1912) is our earliest arrival date. Mr. W. H. Lunn noted it on May 17, 1935, and the Rev. H. H. Barston has noted it recently but during the past few years this species has become decidedly uncommon. The extent of favourable nesting habitat has been reduced by cultivation and grazing. A specimen but without data collected in Prince Edward County is in the collection of Mr. Frank Brimley of Wellington wherein there is also a set of two eggs taken locally in 1911.

Chordeiles minor. NIGHTHAWK.—Our earliest spring arrival date for this species is May 7 (1913). Mr. Frank Brimley informed us he had found the species nesting in the county. We found the

nighthawk a scarce summer resident in 1930. It is present in the county at least until early September.

Chaetura pelagica. CHIMNEY SWIFT.—A fairly common summer resident in the county. Scattered pairs establish themselves here and there in rural districts to nest, principally in disused chimneys (at Milford, July 3, 1930, etc.) but also against the gable ends inside barns and outbuildings. The earliest arrival date we have among our records is April 30 (1934 and 1936). Mr. Stuart Thompson noted the species in the county between August 30 and September 1 in 1930.

♀ May 31, 1930, Hallowell.

Archilochus colubris. RUBY-THROATED HUMMINGBIRD.—Noted fairly regularly during the summer of 1930. Our earliest spring arrival date is May 7 (1912).

♀ May 31, 1930, Hallowell.

♀ June 25, 1930, Sand Banks.

Megaceryle alcyon. BELTED KINGFISHER.—Although April 13 is the only exact date we have for the spring appearance of the Kingfisher, it may be expected somewhat earlier on occasion. We found it scattered over the county in 1930 as a breeding bird. Young of the year and occupied tunnels were noted. No autumn departure dates are available and we have no winter records.

Juv. ♀ June 28, 1930, Hallowell.

Colaptes auratus. FLICKER.—According to our casual notes, April 10 to 15 seems a normal date marking the return of the Flicker to Prince Edward County although it has been seen a few days earlier (April 2, 1938). We found it a common and well-distributed breeding bird of the area and a set of eight eggs is in the local collection of Mr. Frank Brimley at Wellington. Our latest autumn date is indicated by the specimen listed below. An account of "A Flicker Murder" in the literature had its locale in Prince Edward County (Brown, 1929b).

♂ May 29, 1930, Hallowell.

Juv. ♀ July 5, 1930, Hallowell.

Juv. ♀ July 16, 1930, Hallowell.

♂ (skeleton) Nov. 11, 1934, Hillier.

Melanerpes erythrocephalus. RED-HEADED WOODPECKER.—A summer resident; not plentiful but we saw it occasionally here and there during the summer of 1930. The species is to be expected back to the region by early May (May 7, 1912). A nest occupied by young was found near Hallowell on July 9, 1930. Although the Red-headed Woodpecker has been observed in the autumn, the records are too few to indicate departure dates. There are no winter records.

♂ July 3, 1930, Consecon Lake.

♀ July 9, 1930, Hallowell.

Sphyrapicus varius. YELLOW-BELLIED SAPSUCKER.—Available migratory dates concerning this woodpecker do not represent the exact range of time during which it is passing through the county, north and south. They indicate that it can be expected after mid-April in spring and during the first two weeks of September in the autumn. Finding this woodpecker established as a breeding bird in the county is of interest since it is undoubtedly more characteristically and plentifully a Canadian zone bird in Ontario. As might be expected it was an uncommon species at this season although recorded on eight days during the summer of 1930.

The two females collected in mid-summer both have their tail feathers almost completely worn away. One might expect this to be common among birds which nest in tree cavities but the especially resistant tail feathers of woodpeckers are seldom so markedly abraded.

♂ Apr. 27, 1938, Hillier.

Juv. ♀ July 14, 1930, Gerow Gore.

2 ♀ ♀ July 7, 1930, Hallowell.

Dryobates villosus. HAIRY WOODPECKER.—Rather rare in summer; breeding status substantiated by a juvenile specimen listed below. More conspicuous in autumn, winter, and spring.

The form occurring in the county is *D. v. villosus*.

♀ (skull) Mar. 19, 1937, Hillier.

♂ July 7, 1930, Hallowell.

Juv. ♀ July 7, 1930, Hallowell.

♀ Oct. 26, 1935, Hillier.

Dryobates pubescens. DOWNY WOODPECKER.—A fairly common summer bird of Prince Edward County. The species is notoriously inconspicuous during the early part of the breeding season

but by July when the young are out of the nest it is seen more often. On July 3, 1938, Mr. H. H. Southam observed a Downy Woodpecker entering a nesting cavity which he estimated to be 50 feet from the ground, an unusually high situation. The species winters in the region. From our records it is somewhat less common than the Hairy Woodpecker at all seasons. Brown (1929a) has recorded this species as a destroyer of the Corn Borer in Prince Edward County.

The breeding form of the region is *D. p. medianus*.

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| ♀ May 26, 1930, Hallowell. | Juv. ♀ July 5, 1930, Hallowell. |
| ♂ June 21, 1930, Hallowell. | ♂ July 5, 1930, Hallowell. |
| Juv. ♂ July 2, 1930, Picton. | Juv. ♀ July 10, 1930, Hallowell. |
| Juv. ♂ July 2, 1930, Cherry Valley. | Juv. ♂ July 10, 1930, Hallowell. |

Tyrannus tyrannus. EASTERN KINGBIRD.—The spring arrival of this flycatcher can be expected by May 12, although first arrivals vary from May 6 to May 17. It is a common bird of the county throughout the summer. We observed occupied nests in 1930. The fall departure is in August and by the end of the month the species has largely disappeared. The latest record we have is that of Mr. Stuart Thompson who noted the species between August 30 and September 1, 1930.

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|----------------------------|----------------------------------|
| ♂ May 24, 1930, Hallowell. | Juv. ♂ July 15, 1930, Hallowell. |
| ♂ May 26, 1930, Hallowell. | |

Myiarchus crinitus. CRESTED FLYCATCHER.—Our first spring arrival dates for this species vary from May 12 (1912) to May 21 (1934). It is a fairly common summer bird of the area. Its breeding status was established when two nests were found at Point Traverse on June 30 and by a set of eggs in the Brimley collection. Mr. Stuart Thompson noted the Crested Flycatcher between August 30 and September 1, 1930, a period which probably approaches a date of departure.

| | |
|---|-----------------------------|
| ♂ May 26, 1930, Hallowell. | ♀ July 11, 1930, Hallowell. |
| Nestling ♂ June 30, 1930, Point Traverse. | |

Sayornis phoebe. EASTERN PHOEBE.—The Phoebe can be expected to return to Prince Edward County in spring between March 31 and April 9. Throughout the summer, pairs are established here and there, nesting beneath bridges and about buildings, usually near water. We observed it regularly in the summer of

1930 and found nests. Mr. H. H. Southam found two occupied nests in an abandoned farmhouse near Milford on July 3, 1934, one in the cellar and one in the living room (also a Swift's nest in the chimney)—a veritable apartment house! The Phoebe remains, or is found as a migrant, until mid-October (October 20, 1934).

♀ June 2, 1930, Wellington.

Empidonax flaviventris. YELLOW-BELLIED FLYCATCHER.—Although it might be expected that this species migrates through the county regularly, and in numbers, our only record is that of the Rev. H. H. Barston who has noted it near Wellington, Prince Edward County, in August, at which time it would be migrating south.

Empidonax trailli. TRAILL'S FLYCATCHER.—An uncommon summer resident species in Prince Edward County. We recorded it on seven occasions during the summer of 1930.

♂ June 4, 1930, Wellington.

♂ June 28, 1930, Woodrous.

Empidonax minimus. LEAST FLYCATCHER.—Our earliest spring arrival date for this flycatcher is May 13, 1933. The last spring date on which it was recorded as a migrant in 1930 was May 27. It is a rare bird in Prince Edward County in summer and its status at that time is uncertain. Two birds, presumably a pair, were found in the thicket bordering a spring creek near Hallowell on July 12, 1930. Although this spot had been visited at intervals previously during late June and July, the Least Flycatcher had not been noted. It is impossible to say whether these birds were established for nesting, or were summer wanderers, or extremely early southward migrants. A late fall date reported by Mr. W. H. Lunn is September 23, 1934.

♂ July 12, 1930, Hallowell.

Myiochanes virens. EASTERN WOOD PEWEE.—Insufficient observation has been made to present a definite arrival date of the Wood Pewee. Undoubtedly it is present for some time in spring before it attracts much attention. It is a common summer resident of Prince Edward County wherever suitable tree growth is found. Although we did not find a nest during the summer of 1930, Mr.

J. F. Brimley told us of having done so near Wellington and in his collection there is a set of eggs taken locally but without exact data.

One of the lasting impressions of our camp near Hallowell concerns the voice of the Wood Pewee. A presumed male bird had chosen as a singing post, an apple tree a few feet from where the writer slept. With the break of dawn the pewee started his roundelay which was, at this hour, vastly different from the dreamy slurred song heard during the heat of the day; different, both as regards the song itself and also in its effect on the listener. The phrases "Peeawee," and "Weebie-ee" were given alternately and in rapid succession. The monotony of this early morning song could only be conveyed here by filling a page with my written phonetic interpretation, a thing I do not intend to do.

The latest available observation of this flycatcher is that of the late John Townson who noted the species on September 26 in 1931.

♂ May 27, 1930, Hallowell.

♀ July 11, 1930, Hallowell.

♂ June 16, 1930, Hallowell.

♂ July 16, 1930, Ameliasburg.

Otocoris alpestris. HORNED LARK.—This is the first spring migrant which returns from the south to Prince Edward County. For several years, Mr. W. H. Lunn has noted it regularly in early February (earliest, January 28, 1937). The species is most common in spring and fall when migrants are passing through, but it is present throughout the summer. We found it established in several localities in 1930 and observed young which were reared locally. November 22 (1935) is our latest date of occurrence.

It is probable that two races of this species occur in the county. As far as our collection of specimens is concerned, *O. a. praticola* is represented certainly as the breeding form and most of the individuals taken on a migration date seem readily referable to this form also.

♂ Feb. 13, 1937, Hillier.

— Mar. 6, 1937, Hillier.

♂ Mar. 18, 1935, Niles Corners.

♂ Apr. 17, 1935, Hillier.

♂ June 7, 1930, Hallowell.

♂ June 19, 1930, Hallowell.

♀ July 2, 1930, Fish Lake.

♂ July 2, 1930, Fish Lake.

♂ July 7, 1930, Hallowell.

♀ Oct. 14, 1935, Hillier.

♂ Oct. 14, 1935, Hillier.

— (skull) Oct. 24, 1936, Hillier.

♂ Oct. 26, 1935, Hillier.

2 ♂♂ Nov. 11, 1935, Hillier.

♀ Nov. 11, 1935, Hillier.

Iridoprocne bicolor. TREE SWALLOW.—A common bird of the county in spring, summer, and fall. The species has been noted as early as March 29, though early April is a more normal arrival time. We found it nesting in several sections of the county in 1930. Young tree swallows were first recorded out of the nest on June 27. The species was first noted as congregating for southward migration on July 10, at which time hundreds were observed. They remain, or occur, as migrants, as late as October 15, although the fall movement is largely completed by the third week of September.

2 ♀ ♀ May 26, 1930, Hallowell. ♂ June 25, 1930, Sand Banks.
 Juv. ♂ June 21, 1930, Hallowell. Juv. — Aug. 30, 1931, Weller Bay.
 Juv. ♂ June 25, 1930, Sand Banks.

Riparia riparia. BANK SWALLOW.—A common bird of the county from mid-April to mid-September but rather interruptedly distributed in summer. The nesting colonies known to us, together with the approximate number of pairs occupying each, are as follows: Mountain View (300), South Bay (25), Picton (20), Sand Banks (15), and Cherry Valley (15). The nests examined at Sand Banks on June 25, 1930, contained newly hatched young. This species congregated in great numbers at Sand Banks on July 20, 1930, the number probably having been increased by the arrival of southward moving migrants from the north. It was estimated that five thousand Bank Swallows were assembled here on this date.

♂ June 5, 1932, Weller Bay. ♀ June 25, 1930, Sand Banks.

Stelgidopteryx ruficollis. AMERICAN ROUGH-WINGED SWALLOW.—A scarce summer resident of the county, noted on two occasions in 1930, one on May 23, which perhaps represents an arrival date, and two on June 25.

♀ June 25, 1930, Sand Banks.

Hirundo erythrogaster. BARN SWALLOW.—This common swallow should be expected back in spring by mid-April after which it becomes increasingly plentiful and well-distributed over the county. In summer it is found nesting in barns and outbuildings. August is the month during which this species disappears southward. September 1 is our latest date on which it has been observed.

♂ May 24, 1930, Hallowell. Juv. ♂ July 4, 1930, Hallowell.

Petrochelidon albifrons. CLIFF SWALLOW.—Noted on several occasions during the summer of 1930,—at Hallowell, Point Traverse, Elmbrook, and Huyck Bay.

Although we did not locate a nesting site we did see one of these swallows securing mud from the road near Elmbrook on July 10, undoubtedly for nesting purposes. Mr. H. H. Southam found a nest with one small young and an egg at Point Traverse on July 3, 1938.

♀ May 25, 1931, Weller Bay.

♂ July 10, 1930, Elmbrook.

♀ June 16, 1930, Hallowell.

Progne subis. PURPLE MARTIN.—A fairly common summer bird in Prince Edward County, perhaps as numerous and evenly distributed as in any equal area of the province. Available spring arrival dates vary from April 6 to 27 and the last fall date is September 9. The Purple Martin nests in bird boxes about towns, villages, and farmsteads of the county. Mr. H. H. Southam estimated that fifty pairs occupied bird boxes on Point Traverse in 1938.

♀ May 24, 1930, Hallowell.

♂ July 17, 1930, Wellington.

♂ May 24, 1930, Hallowell.

Perisoreus canadensis. CANADA JAY.—A visitor to the county from the north. A flight of numbers of this jay was reported in the Toronto "Globe" during October, and by Fleming (1905) as having occurred at Wellington on the twenty-first, in 1904. Mr. Wm. Carrell, who then resided in Prince Edward County, observed somewhere in the neighbourhood of fifty birds there during that autumn. This flight extended well along the north shore of Lake Ontario. Mr. W. H. Lunn noted the species near Carrying Place during the winter of 1921-2, and one bird near Wellington in December, 1925.

Cyanocitta cristata. BLUE JAY.—Not common, but noted fairly regularly by us during the summer of 1930. The period of largest numbers is in the early autumn at which time individuals from the north augment the local population. Mr. J. F. Brimley has found this species nesting in the county and has a set of five eggs, taken locally, in his collection. Mr. Brimley, Mr. W. H. Lunn, and others have noted the species in winter.

♂ June 21, 1930, Hallowell.

Corvus brachyrhynchos. CROW.—A common breeding bird of the region in summer. Our daily records in 1930 showed a rise in the numbers observed after mid-July, marking the period when young become active on the wing and vocally conspicuous. The species is largely migratory in the county. It returns to the area in February (February 19, 1912) or early March, varying somewhat with the weather. Migration can still be observed in April during some years. Autumn migration occurs during early November; the late John Townson observed it to be a westerly movement in the county. A few wintering individuals are to be expected, particularly during open mild winters. During the winter of 1932-3 a considerable number stayed in the county according to Mr. W. H. Lunn. A specimen shot from a flock in October, 1933, by Mr. Chas. Melton had had the premaxillary broken off just forward of the nostrils. The injury had healed and the mandible had grown recurved.

A nest containing three young, old enough to fly, was found at Sand Banks on June 25, 1930. It was situated on the top of a dead stub approximately 8 feet high.

Juv. ♀ June 11, 1930, Hallowell. ? (head) Oct., 1933, Bloomfield.

Penthestes atricapillus. BLACK-CAPPED CHICKADEE.—During the summer of 1930, we observed this species rather irregularly. The first young of the year were noted on June 28 at Woodrous. After the third week of June the species was observed more regularly. The Black-capped Chickadee is certainly more conspicuous in winter and probably more common.

Specimens are typical of the eastern form, *P. a. atricapillus*, as determined by comparison with comparable specimens from the Quebec City area.

♀ June 2, 1930, Wellington. ♂ June 28, 1930, Woodrous.
♂ June 12, 1930, Hallowell. Juv. ♀ July 16, 1930, Rednersville.

Sitta carolinensis. WHITE-BREASTED NUTHATCH.—A sparse population of this species is resident in Prince Edward County throughout the year. We saw young of the year at Woodrous on July 11, 1930, undoubtedly reared locally.

♂ May 27, 1930, Hallowell.

Sitta canadensis. RED-BREASTED NUTHATCH.—This migrant species which is probably never numerous, is most conspicuous in late April and early May and again in late October. We have no winter records from the county although the species may occur occasionally at that season.

♂ May 1, 1936, Hillier.

Certhia familiaris. BROWN CREEPER.—Occurs at all seasons of the year in Prince Edward County but it is most conspicuous in spring, especially from April 7 to the end of that month, and in the autumn, especially during the first two weeks of October.

? Apr. 10, 1936, Hillier.

♂ May 2, 1936, Hillier.

Troglodytes aedon. HOUSE WREN.—The earliest record of spring arrival we have is May 2, 1934, which is probably but a few days prior to a normal first return rather than an extreme date. The species is not uncommon in the county in summer although it is rather irregularly distributed according to habitat conditions. Young of the year were first noted by us on June 28, 1930, at Woodrous. Generalized reports available indicate that House Wrens have probably all migrated in autumn by mid-October.

The five specimens collected conform well with the character ascribed to the Ohio House Wren (*Troglodytes domesticus baldwini* of Oberholser, 1934), and although individuals can be matched by specimens from Massachusetts, a small series from that area in the R.O.M.Z. collection averages more rufescent and less sooty than the Prince Edward County birds.

♀ June 25, 1930, Sand Banks.

2 ♂♂ June 30, 1930, Point Traverse.

♂ June 25, 1930, Sand Banks.

♀ June 30, 1930, Point Traverse.

Nannus hiemalis. WINTER WREN.—Largely a migrant species which passes through in spring from mid-April to early May. The earliest spring record is March 22 (1938), although another early report concerns one observed on April 6 (in 1935). The Winter Wren is a rare breeding bird of the county. We noted it on four occasions during the summer of 1930, at Wellington and Woodrous, and established its breeding status at the latter place when a young of the year was collected. October is the period during which the

majority of Winter Wrens pass through in autumn. No winter records are available.

♂ June 5, 1930, Wellington.

Juv. ♂ June 28, 1930, Woodrous.

Telmatodytes palustris. LONG-BILLED MARSH WREN. — The marshes of Prince Edward County offer an extensive terrain for species such as this one. We found it common in summer. Although its colonizing habits in effect left vast marsh areas unoccupied, breeding sites are well distributed throughout the borders of the county. Eggs found which varied from fresh to slightly incubated, ranged in date from June 10 to July 2 in 1930. April 25, 1934, constitutes the earliest spring arrival date we have. No exact departure dates are available but the species has disappeared from the marshes of the county by mid-October.

The uncertainty as to racial status of Ontario Long-billed Marsh Wrens leaves any discussion of local birds unwarranted.

♂ May 26, 1930, Hallowell.

♀ June 5, 1932, Weller Bay.

♂ May 26, 1930, Hallowell.

♂ June 13, 1930, Hallowell.

Cistothorus stellaris. SHORT-BILLED MARSH WREN.—A number of colonies of this wren have been found in the county (Weller Bay, near Wellington, near Picton, and at Point Traverse) but the erratic nature of the species gives no assurance that they will persist in an exact location. It was estimated that fifteen individuals were observed in the Wellington colony on July 17, 1930. Although females are rarely seen we cannot be certain that this number represented fifteen pairs. Mr. W. H. Lunn has found the nest of this species four miles west of Wellington. When first discovered on June 6, it contained one egg. On June 17, seven eggs were noted. No data as to the arrival and departure of this species in the county are available.

2 ♂♂ June 4, 1930, Wellington.

♂ June 26, 1930, Wellington.

Dumetella carolinensis. CATBIRD.—The Catbird is a fairly common summer resident which arrives in Prince Edward County early in May (earliest, May 1, 1934). The earliest date for a complete clutch of eggs is May 25. Young of the year were first noted during the summer of 1930 at Cressy on July 2. Our information on the species in autumn is very meagre; it has been noted in early

September. It seems probable that Catbirds have largely disappeared by early October.

♂ June 4, 1930, Wellington.

Toxostoma rufum. BROWN THRASHER.—A rare summer bird of Prince Edward County. We saw but one during the summer of 1930,—on June 30, at Milford. The two other records we have are,—one observed on September 1, 1930, by Mr. Stuart Thompson, possibly a migrant on this date, and a specimen taken locally but without data, in Mr. Frank Brimley's collection in Wellington.

Turdus migratorius. AMERICAN ROBIN.—This common bird is to be expected back to the county after mid-March (earliest, March 12, 1938) with a peak of numbers not occurring until early April. It is a common breeding bird of the region. We noted from three to thirty-five daily during the summer of 1930. Migrant flocks are conspicuous from the latter part of September through October, the majority having gone southward by the early part of November. Two December records of Mr. W. H. Lunn, one on December 11 in 1934 and one on December 18 in 1938, indicate that an occasional robin may winter in the county. A nest, probably representing a second nesting, was found at Wellington on June 25 in 1930. It contained three eggs.

♂ May 29, 1930, Hallowell.

Juv. ♀ July 10, 1930, Hallowell.

Hylocichla guttata. HERMIT THRUSH.—A fairly common migrant which passes through in spring between mid-April and mid-May (latest, May 23, 1930) and in the fall largely during October.

2 ♂♂ April 25, 1938, Hillier.

? Oct. 26, 1935, Hillier.

? (skull) Oct. 23, 1937, Wellington.

Hylocichla ustulata. OLIVE-BACKED THRUSH.—A fairly common spring and fall migrant concerning which we have too little exact data to suggest a calendar of occurrence. We found it in the region until May 27, in 1930, and a specimen listed below extends the spring migration period another three days. Generalized reports indicate that it is to be expected in the fall during the latter part of September and early October.

♂ May 22, 1930, Hallowell.

♂ May 30, 1930, Hallowell.

Hylocichla minima. GREY-CHEEKED THRUSH.—A spring and fall migrant. We have few data as to its numbers and time of occurrence in the county but it should be present in May (latest, May 27, 1930) and again during the latter part of September and early October.

The specimen listed below is typical of the form *H. m. aliciae*.

♂ Sept. 19, 1936, Hillier.

Hylocichla fuscescens. WILSON'S THRUSH.—A fairly common summer bird of the county which returns early in May. It occupies the swamps and wooded stream borders where it has been found nesting by Mr. Frank Brimley. Our records in 1930 showed that the species occurred regularly until late July. No information as to when this thrush departs in the autumn or late summer is available.

Without typical birds (Pennsylvania) of the race *H. f. fuscescens* with which to compare our Prince Edward County series, they appear to represent that form.

♀ June 5, 1930, Wellington.

♂ June 5, 1930, Wellington.

♂ June 11, 1930, Hallowell.

♂ June 24, 1930, Hallowell.

♂ June 26, 1930, Wellington.

♂ June 30, 1930, Point Traverse.

♀ July 7, 1930, Hallowell.

♂ July 10, 1930, Elmbrook.

Sialia sialis. RED-BREASTED BLUEBIRD.—One of the early returning migrants in spring, to be expected during the latter days of March (earliest, March 19, 1938). We observed it regularly during the summer of 1930 and tabulated from one to nine daily. On July 3, 1938, Mr. H. H. Southam noted twelve family groups between Picton and Point Traverse, a distance of approximately twenty miles, which gives some indication of the prevalence of the species in summer. Bluebirds are on migration by early October. The late John Townson judged the height of the fall movement to be toward the end of that month but saw individuals as late as November 3 at Weller Bay.

♂ June 3, 1930, Hallowell.

Regulus satrapa. GOLDEN-CROWNED KINGLET.—Largely a spring and fall migrant in the county but a few are occasionally seen

in winter according to Mr. W. H. Lunn (three, January 31, 1937). April is the month during which this species is most prevalent in spring though they still may be found during early May. They reappear again in October.

♂ April 13, 1937, Hillier.

Corthylio calendula. RUBY-CROWNED KINGLET.—So far as our records are concerned this kinglet has the same status in Prince Edward County as the Golden-crowned Kinglet except that we have no records of it in winter.

♀ May 1, 1936, Hillier.

♂ May 1, 1936, Hillier.

Anthus spinoletta. AMERICAN PIPIT.—Prince Edward County appears to be exceptionally inviting to this species on migration. It is less common in spring than in autumn but it appears regularly on its way northward in May. Our records indicate that they appear during the second and third week of that month. The earliest record for the autumn return is September 24, 1934. The greatest numbers pass through between October 16 and November 11 (November 15, latest records), according to Mr. W. H. Lunn.

♂ Oct. 6, 1937, Hillier.

♀ Oct. 26, 1935, Hillier.

? (skull), Oct. 24, 1936, Hillier.

Bombycilla cedrorum. CEDAR WAXWING.—Our records do not include any autumn or winter occurrences of this species although it is probably present after the close of summer and perhaps also occasionally in winter. By early June, Cedar Waxwings are found here and there through the county. In 1930 they were a plentiful breeding bird by June 28. The first young of the year were reported at Hallowell, on July 15, by Mr. T. B. Kurata.

♂ June 28, 1930, Hallowell.

♂ June 28, 1930, Woodrous.

Lanius borealis. NORTHERN SHRIKE.—A late autumn (November) and winter visitant, found occasionally according to Mr. W. H. Lunn. The latest occurrence in spring is a sight record made by Mr. Frank Brimley on April 6, 1912.

? (wing) Feb. 5, 1937, Hillier.

? Mar. 15, 1940, Wellington.

Lanius ludovicianus. COMMON SHRIKE.—A breeding species of the county which returns early in April and departs in early autumn.

We observed pairs or families occasionally in 1930 at widely separated localities (Bloomfield and Milford). A nest containing five slightly incubated eggs was found at Milford on June 30, 1930. At the same time three young were seen perched on a nearby fence—perhaps the first brood of this pair.

The north-eastern race, the Migrant Shrike (*L. l. migrans*), is the one occurring in the county, the type locality of which is adjacent to the area (Kingston).

Juv. ♀ June 30, 1930, Milford.

♀ June 30, 1930, Milford.

Sturnus vulgaris. STARLING.—The exact date of the advent of this introduced European bird (race, *S. v. vulgaris*) into Prince Edward County is not known but Lewis (1927) has recorded their first appearance at Trenton, which is on the mainland across the Bay of Quinte, as 1922. His first Prince Edward County record was for Picton, in February, 1925. According to Mr. Frank Brimley it began to be observed frequently after the spring of 1927. During the summer of 1930 we found it to be one of the most common and regularly observed birds, a status attained in less than ten years! Nests and young of the year were repeatedly observed. The earliest brood on the wing was noted on June 4. A young of the year collected on July 15 shows the development of its first winter plumage, dorsally and ventrally.

Starlings have been observed migrating in late September through Prince Edward County by both the late John Townson and Mr. W. H. Lunn. They are often, even usually, in company with members of the Family Icteridae—Redwings, Cowbirds, and Grackles. Numbers also winter in the area.

2 juv. ♂♂ June 4, 1930, Hallowell. Juv. ♀ July 15, 1930, Hallowell.

♂ June 4, 1930, Wellington.

Vireo solitarius. SOLITARY VIREO.—A spring and probably a fall migrant concerning which we have little exact data.

♂ May 3, 1938, Hillier.

Vireo olivaceus. RED-EYED VIREO.—A fairly common breeding bird in summer. It arrives in spring, for the most part after mid-May and disappears southward by early October.

♀ May 27, 1930, Hallowell.

♀ June 23, 1930, Hallowell.

Vireo gilvus. WARBLING VIREO.—Not plentiful but found by us in several localities in the county—Wellington, Hallowell, Bloomfield, and Picton. It seems to prefer the shade trees about towns, villages, and farmsteads. One or two birds were noted nearly every day during the summer of 1930. Mr. W. H. Lunn reports it as a mid-May arrival in spring. No autumn departure dates are available.

♂ June 22, 1930, Hallowell.

♂ July 3, 1930, Hallowell.

Mniotilta varia. BLACK AND WHITE WARBLER.—Fair numbers of this warbler pass through Prince Edward County in spring and autumn. A specimen listed below, taken on May 3, 1938, establishes our earliest arrival date. The species is not rare in the county in summer. In 1930 we recorded from one to ten nearly every day. Adults were seen at Woodrous on June 28 carrying food which gave evidence of the breeding status of this species in the area. Southward moving migrants pass through from the end of August through September.

♂ May 3, 1938, Hillier.

♂ June 25, 1930, Sand Banks.

♀ June 12, 1930, Hallowell.

Vermivora pinus. BLUE-WINGED WARBLER.—On May 23, 1930, while exploring the open woods of an island in West Lake near Hallowell, the writer was attracted by a warbler song unfamiliar to him. The bird was collected and proved to be an adult male of this species. This specimen appears to be the second taken in Canada,—the first was an immature secured at Point Pelee (Taverner and Swales, 1908). In addition there are three or four sight records from southern Ontario localities and a third specimen was collected near Strathroy in 1932.

♂ May 23, 1930, Hallowell.

Vermivora ruficapilla. NASHVILLE WARBLER.—A fairly common migrant but a rare summer resident in the county. May 6 is our earliest spring record. We found migrants still passing through until May 25 in 1930 after which none was noted until mid-summer when a singing male was found established near Rednersville. A juvenile, no doubt reared there, was collected on July 16.

Juv. ♂ July 16, 1930, Rednersville.

Dendroica aestiva. YELLOW WARBLER.—This species returns to Prince Edward County in early May (earliest, May 1, 1933) and becomes common by the middle of the month and although at this season many individuals are transient, a large population remains there to nest. We observed it very commonly during the last ten days of May in 1930. After that date it was noted regularly and commonly throughout the summer. A slight drop in numbers noted by us about June 1 is probably attributable to the starting of incubation. However, the change was not marked and numbers up to thirty (June 25) were recorded daily. Several breeding records have been established. The earliest complete set of eggs (five) was found on May 31 in 1912 by Mr. Frank Brimley. The autumn migration is apparent only by the gradual diminution of number and appears to take place largely in August.

Juvenile males in the collection are distinctly yellower than juvenile females.

♂ May 26, 1930, Hallowell.

♂ June 24, 1930, Hallowell.

♂ June 30, 1930, Point Traverse.

♂ July 3, 1930, Hallowell.

♂ July 7, 1930, Hallowell.

Juv. ♀ July 9, 1930, Hallowell.

♂ July 12, 1930, Hallowell.

Juv. ♂ July 16, 1930, Hallowell.

Juv. ♀ July 16, 1930, Hallowell.

Juv. ♂ July 16, 1930, Hallowell.

Dendroica magnolia. MAGNOLIA WARBLER.—The earliest spring occurrence of this warbler in our records is among the notes of Mr. Frank Brimley for 1912, namely May 12. The latest spring record is marked by a specimen collected on June 2, 1930 (listed below). The species is entirely transient in the area so far as we are aware. It migrates through in autumn largely in September.

♂ (skull) May 20, 1938, Hillier.

♂ May 23, 1938, Hillier.

♀ June 2, 1930, Wellington.

Dendroica caerulescens. BLACK-THROATED BLUE WARBLER.—Our records on this species are too few to mark the migratory periods but it is apparent that they are to be expected after mid-May (May 23, 1937). We found a pair established in a dense dry mixed forest near Woodrous on June 27 in 1930. It is, then, a rare summer resident of the county. A specimen collected near Wellington on June 2 of the same year may also have been established there.

♀ June 2, 1930, Wellington.

♂ June 27, 1930, Woodrous.

Dendroica coronata. MYRTLE WARBLER.—A common spring and fall migrant. Our earliest spring date is April 25 (1938); the latest May 23 (1937). The fall migration is under way by August (August 18, 1916) and large flights have been noted in early October. Our latest autumn record is October 19 (1935).

♂ May 1, 1936, Hillier.

♂ (skull) May 3, 1938, Hillier.

Dendroica virens. BLACK-THROATED GREEN WARBLER.—A rather uncommon summer resident for the county as a whole but in suitable old mixed woods it is not uncommon. As many as twelve were noted by us on June 28, 1930. Only one date is available to mark the spring migration period of this warbler,—a specimen collected on May 12, 1912, in the collection of Mr. Frank Brimley. No fall departure dates are among our records.

♂ June 23, 1930, Hallowell.

Dendroica cerulea. CERULEAN WARBLER.—A rare bird of the county; the only occurrence is marked by the specimen listed below. This bird, an adult male which was in full song, may well have been mated and established there but no other bird was seen.

♂ June 21, 1930, Hallowell.

Dendroica fusca. BLACKBURNIAN WARBLER.—A fairly plentiful May migrant; earliest, May 13 (1933); latest, May 27 (1925). We did not find it in summer in 1930 and no fall records are available.

Dendroica pensylvanica. CHESTNUT-SIDED WARBLER.—It seems probable that this species is a more regular and plentiful migrant in Prince Edward County than our casual information conveys. It should be looked for particularly in May and September.

♂ May 14, 1934, Hillier.

Dendroica castanea. BAY-BREASTED WARBLER.—A May and September migrant in the county. Few exactly dated observations are available but one note of the late Edwin Beaupre lists the species for May 27, 1925, at Timber Island. This date probably represents the close of the northward movement through the county

in spring. A specimen listed below, taken on May 23, was the last Bay-breasted Warbler migrant observed in 1930.

♀ May 23, 1930, Hallowell.

Imm. ? Sept. 19, 1936, Hillier.

Dendroica striata. BLACK-POLL WARBLER.—The spring specimens listed below (June 7) probably represents a normal concluding date for the northward migration of this species. The last half of May is the usual period during which the species is to be expected in Prince Edward County. It returns largely during September.

♂ June 7, 1931, Weller Bay.

Imm. ♀ Sept. 19, 1936, Hillier.

Dendroica pinus. PINE WARBLER.—A rare summer resident; four birds were established in a white pine stand at Cherry Valley in 1930. The females collected were both birds which had probably incubated eggs, according to the naked area on the abdominal region.

2 ♀ ♀ July 2, 1930, Cherry Valley.

Seiurus aurocapillus. OVEN-BIRD.—A fairly common species in the woodlands of the county in summer. Our migration records are too incomplete to present arrival and departure dates but it is present in May and remains into September. Young just out of the nest were noted by us on June 27, 1930, and one was collected.

♂ June 7, 1930, Hallowell.

Juv. ♀ June 27, 1930, Woodrous.

♀ June 23, 1930, Hallowell.

♀ July 16, 1930, Rednersville.

Seiurus noveboracensis. WATER-THRUSH.—Our observations in 1930 indicated that transient individuals were evident until May 23. We have no early spring migration dates and none for the autumn period. A considerable proportion of the forested areas of Prince Edward County are swamps, or wet situations unsuited to agriculture if cleared. In such habitats Water-Thrushes were found to be fairly common in summer. We collected the first young of the year on July 7, but this specimen had been out of the nest for some time, in fact, it, and another immature collected a week later, had acquired the first winter plumage. The tails of these young birds had not attained their full length. Adults were decidedly in the moult at this period. On July 2, 1938, Mr. H. H.

Southam found young in the juvenile plumage in the swamp known as Gerow Gore.

Specimens collected comprise a uniform series and are typical of the form, *S. n. noveboracensis*.

| | |
|--------------------------------|-----------------------------------|
| ♀ June 21, 1930, Hallowell. | Imm. ♀ July 7, 1930, Hallowell. |
| 3 ♂♂ June 21, 1930, Hallowell. | Imm. ♂ July 14, 1930, Gerow Gore. |
| ♂ June 24, 1930, Hallowell. | ♂ July 14, 1930, Gerow Gore. |

Oporornis philadelphia. MOURNING WARBLER.—Noted by the Museum's party as a migrant until May 27, 1930. It was not a common summer resident for the area as a whole but we found it fairly common in a few sections. An adult was observed carrying food on June 28, at Woodrous, giving evidence of breeding. No dates on the autumn migration are available.

| | |
|-----------------------------|------------------------------|
| ♂ May 27, 1930, Hallowell. | ♂ June 26, 1930, Wellington. |
| ♂ June 19, 1930, Hallowell. | |

Geothlypis trichas. MARYLAND YELLOW-THROAT.—A May migrant and a common summer resident. Breeds about the borders of the many marshes of the county. No data on its autumn migration are available.

| | |
|---------------------------------|----------------------------|
| ♂ May 22, 1930, Hallowell. | ♂ July 8, 1930, Hallowell. |
| ♂ June 13, 1930, Hallowell. | ♂ July 9, 1930, Hallowell. |
| Juv. — July 7, 1930, Hallowell. | |

Icteria virens. YELLOW-BREASTED CHAT.—On June 20, 1930, while collecting along a creek near Hallowell, the writer heard and saw a Yellow-breasted Chat. The creek flowed through cultivated land but was thickly bordered with trees, bushes, vines, etc. The Chat was located in bushes buried in tall weeds. When shot it fell into the creek. Because of a fence barrier it was not possible to retrieve the bird instantly and when searched for it had been floated away by the rapid current and except for a few feathers was not recovered. This record is apparently the only one for the eastern counties of southern Ontario.

Wilsonia pusilla. BLACK-CAPPED WARBLER.—Probably a regular and not uncommon spring and fall migrant but proof of occurrence rests on a single specimen listed below.

♂ May 22, 1930, Hallowell.

Wilsonia canadensis. CANADA WARBLER.—A May (latest, May 27, 1930) and September migrant. A few remain throughout the summer in suitable situations. Parent birds carrying food, at Woodrour on June 28, substantiate the breeding status of the species.

♂ May 27, 1930, Hallowell.

♂ June 23, 1930, Hallowell.

Setophaga ruticilla. REDSTART.—A common May migrant which returns again in numbers in August and September. It was not uncommon as a summer resident of the county in 1930. We observed the first young of the year at Cherry Valley on July 2.

♂ May 27, 1930, Hallowell.

♂ June 25, 1930, Sand Banks.

Imm. ♂ June 3, 1930, Wellington.

Passer domesticus. ENGLISH SPARROW.—The English Sparrow is an import from the Old World (Europe, *P. d. domesticus*). It is a fairly common and widely distributed resident and breeding bird of the county. Our earliest nesting date is from Mr. Frank Brimley's collection wherein there is a set of five eggs taken on May 6, 1910, at Wellington.

♂ May 29, 1930, Hallowell.

2 juv. ♀ ♀ June 2, 1930, Hallowell.

Dolichonyx oryzivorus. BOBOLINK.—Early in May migrating Bobolinks may be expected back to Prince Edward County. Until the middle of the month (May 13) many flocks pass on to the mainland but shortly thereafter there remain only the pairs which will spend the summer in the meadows of the county. As many as six pairs were established in a ten to fifteen acre field at Hallowell in 1930. Young were on the wing by June 30. The males began to show their autumn dress by the third week of July. By the end of the month Bobolinks were definitely moving southward. The fall migration continues through August. Our latest date is that of Mr. Stuart Thompson, who observed the species between August 30 and September 1, 1930.

2 ♂ ♂ May 23, 1930, Hallowell.

Juv. ♀ July 3, 1930, Hallowell.

♂ June 19, 1930, Hallowell.

♂ July 3, 1930, Hallowell.

♂ June 24, 1930, Hallowell.

♂ July 17, 1930, Hallowell.

♂ June 30, 1930, Point Traverse.

Sturnella magna. EASTERN MEADOWLARK.—Our spring records show that Meadowlarks appear in the county by the end of March (March 22, 1938) and their migration continues through April. It is a common breeding bird of Prince Edward County in summer; young just out of the nest were noted by us in 1930 and Mr. Frank Brimley has a set of eggs taken locally. From one to nineteen Meadowlarks were noted daily during the summer of 1930, the number depending upon the area of cultivated land reconnoitred daily. We have no winter records of the species but they are known to occur rather late in the fall.

♀ June 12, 1930, Hallowell.

Agelaius phoeniceus. RED-WINGED BLACKBIRD.—The vast marshes of Prince Edward County provide a habitat for large numbers of nesting Red-winged Blackbirds. The males first return to the county in spring (earliest, March 16, 1936) followed shortly after by the females. Migration continues until the third week of April. Apparently many transient individuals which nest farther north pass through the county. Our earliest nesting date is based on a set of five fresh eggs taken on May 28, 1930, at Hallowell. Autumn records extend the presence of the species until late fall. November 23 (1935) constitutes the latest date on which Redwings have been observed but the heaviest southward flight appears to be in early October (Gourlay, 1909).

♂ May 22, 1930, Hallowell.

♂ May 24, 1931, Weller Bay.

♀ June 24, 1930, Hallowell.

2 ♀ ♀ July 5, 1930, Hallowell.

2 ♂ ♂ July 5, 1930, Hallowell.

Juv. ♂ July 11, 1930, Hallowell.

♂ July 11, 1930, Hallowell.

Icterus spurius. ORCHARD ORIOLE.—A rather rare and perhaps an irregular summer resident observed by us on five occasions between June 12 and 23 in 1930; not more than two individuals on any occasion. The record of occurrence of this species in Prince Edward County constitutes the most easterly for the province.

Imm. ♂ June 12, 1930, Hallowell.

Icterus galbula. BALTIMORE ORIOLE.—In most years the species is not common and conspicuous until mid-May although

early arrivals have been noted early in that month. We found it a common nesting bird in 1930. Our earliest nesting record is a set of four eggs taken at Wellington on May 31, 1911, now in Mr. Frank Brimley's collection. No information is available on its autumn migration but the gradual disappearance of the Baltimore Oriole after the nesting season is a well-known phenomenon in southern Ontario generally.

One of the natural hazards to which the long pendant nest of the Baltimore Oriole is subjected was brought to our notice on June 30, 1930. While standing beneath an elm tree during a heavy rain and wind storm, a water-soaked nest of this species containing the adult female and three young fell at my feet. On picking it up I was impressed with the extraordinary weight of the saturated structure and realized that this incident may give some indication as to why certain tender-twigged trees are seldom used for nesting. The earliest date on which we observed flying young was June 24, in 1930.

♂ May 22, 1930, Hallowell.

Juv. ♂ July 9, 1930, Hallowell.

Juv. ♀ June 30, 1930, Point Traverse.

♂ July 10, 1930, Elmbrook.

Euphagus carolinus. RUSTY BLACKBIRD.—A regular spring and fall migrant. Our spring records do not indicate the migration period more exactly than the month of April. October is the month when the fall flight is under way and our latest record is of a flock of more than one hundred observed by Mr. Dayton Murphy on December 1, 1937.

♀ Oct. 6, 1937, Hillier.

♂ Oct. 6, 1937, Hillier.

Quiscalus quiscula. CROW BLACKBIRD.—By the end of March or in early April, this species returns to the county. Our earliest record is that of Dr. H. F. Lewis, who saw one at Wellington on March 17, 1938. Flocks of transients move on to the mainland but a large population nests in the county. We found it common and breeding during the summer of 1930. Our earliest breeding date is represented by a set of six fresh eggs and a nest, found in a Manitoba maple on May 6, 1931, at Hillier. Mr. H. H. Southam observed two nests located within the Great Blue Heron colony at Gerow Gore on July 3, 1938. The scavenger habits of the Crow

Blackbird suggest that there was a food advantage in being established there. On June 30, 1930, Mr. J. L. Baillie observed a Crow Blackbird diving into the surf at Point Traverse. It brought up small, live fish which it carried ashore. The species migrates southward principally in October.

♀ April 12, 1937, Wellington.

♂ April 12, 1937, Wellington.

♂ May 1, 1936, Hillier.

♂ June 10, 1930, Hallowell.

Juv. ♀ July 10, 1930, Hallowell.

Molothrus ater. COWBIRD.—An April and October migrant and a fairly common summer resident of Prince Edward County. Late dates of occurrence are indicated by the catalogue of specimens given below. Eggs of this parasitic species were found by us in the nests of Song Sparrows and Swamp Sparrows, during the summer of 1930.

♀ April 10, 1936, Hillier.

♀ June 3, 1930, Hallowell.

♂ June 3, 1930, Hallowell.

Juv. ♂ July 10, 1930, Hallowell.

♀ Nov. 5, 1936, Wellington.

2 ♀ ♀ Dec. 2, 1937, Wellington.

Imm. ♂ Dec. 2, 1937, Wellington.

4 ♂ ♂ Dec. 2, 1937, Wellington.

Piranga erythromelas. SCARLET TANAGER.—A summer resident species which returns to the county by the third week of May (earliest, May 15, 1937) and departs in September. We found pairs established here and there in the older woods and swamps during the summer of 1930 but the species is not common.

♂ (skull) May 15, 1937, Wellington.

♂ June 21, 1930, Hallowell.

♂ June 23, 1930, Hallowell.

♀ June 28, 1930, Woodrous.

♂ July 7, 1930, Hallowell.

♂ July 11, 1930, Woodrous.

Richmondna cardinalis. CARDINAL.—The Cardinal was not found in Prince Edward County during the summer of 1930 and no records earlier than the winter of 1938-9 have come to our notice. The remarkable increase and spread of this species during the fall of 1938 and the following winter in southern Ontario generally, brought our first Prince Edward County reports: a pair was reported and described by a Picton newspaper in January, 1939, as having visited a local feeding station regularly. Another record which has come to hand concerns a bird seen near Consecon during January, 1939. Whether or not this incursion will lead to the establishment of the species in the county remains to be determined.

Hedymeles ludovicianus. ROSE-BREADED GROSBEAK.—A summer resident species concerning which no migration data are available. We found it rather uncommon during the summer of 1930.

♂ May 23, 1930, Hallowell.

Passerina cyanea. INDIGO BUNTING.—No arrival and departure dates for the county are available on this species. It was found sparingly but regularly as a summer resident in 1930. Young reared locally were noted by us and a nest containing three eggs in the R.O.M.Z. collection was taken by Mr. W. H. Lunn on August 15, 1938.

♀ June 16, 1930, Hallowell.

♂ June 16, 1930, Hallowell.

♂ June 21, 1930, Hallowell.

♂ June 24, 1930, Hallowell.

♀ July 7, 1930, Hallowell.

♂ July 12, 1930, Hallowell.

Spiza americana. DICKCISSEL.—Mr. Farley Mowat has communicated a note concerning this species which admits it to our list. During mid-summer of 1940, he observed a male Dickcissel perched on a fence near Consecon. The bird was not vocal but opportunity for certain identification was afforded and it was watched for at least ten minutes.

Hesperiphona vespertina. EVENING GROSBEAK.—Probably an occasional winter visitant but our only information is from a published record, that of Clarke (1892). This record reported the visit of a number of Evening Grosbeaks at Bloomfield between Christmas and March in the winter of 1889-90. This was the winter of the widespread appearance of the species in the east.

Carpodacus purpureus. PURPLE FINCH.—Our information concerning this species has to do only with spring and autumn. It has been observed in March and in October. We did not find it during the summer of 1930.

Pinicola enucleator. PINE GROSBEAK.—A fall and winter visitant not to be expected every year. Mr. Frank Brimley collected one, now in his collection, on January 2, 1912, and noted three on March 17 of the same year. Our miscellaneous records do not contain other reported occurrences until the fall of 1929 when three

were seen. In the fall and winter of 1933-4 numbers were noted by Mr. W. H. Lunn. This observer also reported a small flock on November 23, 1935, and in 1938 he collected the single specimen catalogued below.

♀ Feb. 1, 1938, Wellington.

Acanthis hornemanni. ARCTIC REDPOLL.—One fall specimen of this species, typical of the form, *A. h. exilipes*, was collected and forwarded to the Museum by Mr. W. H. Lunn. No other definite records are available.

♂ Nov. 23, 1935, Hillier.

Acanthis linaria. REDPOLLED LINNET.—Numerous observations of Linnets (or Redpolls) have been made in the county from mid-autumn (earliest, October 26, 1935) to mid-spring (latest, April 30, 1912—specimen, Brimley collection, Wellington). Apparently they are regular winter visitants and common during some years. Although sight observations have suggested that other forms may occur, the single complete specimen listed below is typical of *A. l. linaria*.

? (skull) Mar. 15, 1937, Wellington. ♀ Oct. 26, 1935, Hillier.

Spinus pinus. PINE SISKIN.—A winter visitant which varies in numbers from year to year. Although the species is to be expected from October to March most of the field observations available, and all of the collected specimens, were made in February.

♀ Feb. 13, 1937, Wellington. 2 ♀ ♀ Feb. 14, 1937, Hillier.

Spinus tristis. AMERICAN GOLDFINCH.—A common summer resident noted daily during the summer of 1930. Although our records for other seasons are sporadic they indicate that the species may be found in irregular numbers during some winters.

♂ Feb. 26, 1937, Hillier.

♂ July 7, 1930, Hallowell.

♀ May 26, 1930, Hallowell.

♂ July 9, 1930, Hallowell.

♂ May 26, 1930, Hallowell.

♂ July 15, 1930, Hallowell.

Pipilo erythrophthalmus. EASTERN TOWHEE.—A rare bird of the county; only five were noted throughout the summer of 1930. The April specimen listed below probably marks an approximate arrival date in spring. Mr. W. H. Lunn reported that one was

observed at Niles Corners in January of 1925 which marks a rare winter occurrence.

♀ Apr. 16, 1938, Hillier.

♂ June 30, 1930, Point Traverse.

♂ May 29, 1930, Hallowell.

Passerculus sandwichensis. SAVANNAH SPARROW.—By mid-April Savannah Sparrows have returned to the fields of Prince Edward County. We found them common breeding birds during the summer of 1930. No data on autumn departures are available.

The series collected is regarded as representing the race, *P. s. savanna*, the type locality of which is Georgia (winter).

♂ Apr. 10, 1936, Hillier.

♀ June 30, 1930, Point Traverse.

♀ May 28, 1930, Hallowell.

♂ June 30, 1930, Point Traverse.

♂ June 19, 1930, Hallowell.

♀ July 4, 1930, Hallowell.

♂ June 20, 1930, Hallowell.

Juv. ♀ July 9, 1930, Hallowell.

♀ June 24, 1930, Hallowell.

Juv. ♂ July 26, 1930, Hallowell.

♂ June 27, 1930, Wellington.

Ammodramus savannarum. GRASSHOPPER SPARROW.—During the summer of 1940 two distinct observations of this species were made in the county. On July 24, near Bloomfield, Professor T. F. McIlwraith saw one, and about August 20, near Picton, Mr. F. Mowat saw three.

Poocetes gramineus. VESPER SPARROW.—This common summer resident of the county returns in early spring. Our earliest record is March 31, 1938. It is usually present in large numbers by the latter part of April. The species is plentiful in autumn through September and early October. Our latest autumn date is October 27 (1935). Proof of the breeding status of this species was made in the summer of 1930 by observation of locally reared young and by a nest discovered at Point Traverse on June 30. This nest contained one egg and three young on this date. Our earliest nesting record comes from the Brimley collection at Wellington wherein there is a set of four eggs taken at Hillier on May 6, 1912.

♂ May 26, 1930, Wellington.

♂ July 2, 1930, Fish Lake.

♂ June 16, 1930, Hallowell.

Juv. ♂ July 11, 1930, Hallowell.

♂ June 24, 1930, Hallowell.

♂ July 11, 1930, Hallowell.

♂ June 27, 1930, Wellington.

♂ July 12, 1930, Hallowell.

♂ June 27, 1930, Hallowell.

Imm. ♂ Sept. 19, 1936, Hillier.

Junco hyemalis. SLATE-COLOURED JUNCO.—Present in fall, winter, and spring. The species has usually departed for more northern nesting grounds by mid-May but the late Edwin Beaupre noted it on Timber Island on May 27 (1925). It does not return until October (earliest, October 13). It is most numerous in early November. A few remain in winter, one definite date available being January 19, 1937.

♂ May 2, 1936, Hillier.

Spizella arborea. TREE SPARROW.—The Tree Sparrow arrives in Prince Edward County from its far northern breeding grounds in late autumn. It is present from October 24 throughout the fall and winter, as interpreted from our sporadic records; least common in winter and absent after early spring (latest, April 7, 1912, specimen, Brimley collection, Wellington).

? Oct. 24, 1936, Hillier.

? Nov. 30, 1935, Hillier.

Spizella passerina. CHIPPING SPARROW.—A common breeding bird of the county which returns in April and is present until late October. Observations on spring arrivals have been too occasional to present an early date. The species is present in numbers by late April, and still migrating on May 1 in 1934 according to Mr. W. H. Lunn. On April 28 in 1928 this observer noted a Chipping Sparrow carrying nesting material, an unusually early date for a display of reproductive activity.

♂ May 28, 1930, Hallowell.

Juv. ♀ July 2, 1930, Cherry Valley.

♀ June 27, 1930, Hallowell.

Juv. ♂ July 2, 1930, Cherry Valley.

Juv. ♀ June 30, 1930, Point Traverse.

♀ June 30, 1930, Point Traverse.

Juv. ♀ July 11, 1930, Hallowell.

Juv. ♀ July 11, 1930, Woodrour.

♂ June 30, 1930, Point Traverse.

♂ July 12, 1930, Hallowell.

Zonotrichia leucophrys. WHITE-CROWNED SPARROW.—A plentiful migrant which normally arrives during the first two weeks of May (earliest, April 25, 1938). It has passed through by the end of May (last in 1930, May 23). It migrates southward in October, one specimen listed below marking our latest fall date.

♂ May 15, 1937, Wellington.

? (skull) Oct. 6, 1937, Wellington.

♂ Oct. 6, 1937, Hillier.

? Oct. 24, 1936, Hillier.

Zonotrichia albicollis. WHITE-THROATED SPARROW.—A common migrant and a scarce summer resident. The majority of northward moving White-throated Sparrows pass through the county during April and early May. Two seen on May 22 in 1930 were obviously migrants and apparently marked the close of the northward movement that year. Summer resident birds were found in the more extensive swampy woods of the county. At least a half dozen situations were discovered where White-throated Sparrows were established. The majority of autumn migrants passes through the county from mid-September to mid-October.

♀ May 1, 1936, Hillier.

2 ♂♂ June 21, 1930, Hallowell.

♂ May 1, 1936, Hillier.

? Sept. 19, 1936, Hillier.

2 ? (skulls) May 15, 1937, Wellington.

Passerella iliaca. FOX SPARROW.—This sparrow has been observed occasionally during the third week of April and from mid-October to early November (latest, November 2, 1935). It is entirely a migrant in the county.

Melospiza lincolni. LINCOLN'S SPARROW.—Little is known of this obscure sparrow which apparently occurs in the county only as a migrant. The specimen listed below indicates approximately when it should be expected in the autumn. No information is available for spring but it should be looked for after mid-April.

♀ Sept. 19, 1936, Hillier.

Melospiza georgiana. SWAMP SPARROW.—A fairly common breeding bird of the county. Transient individuals which pass on to the north to nest are still on the move in early May. We have no records after the nesting period. A nest containing three slightly incubated eggs and two of the Cowbird was collected at Hallowell on June 5, 1930.

♂ May 22, 1930, Hallowell.

♂ July 8, 1930, Hallowell.

♀ June 5, 1930, Hallowell.

Melospiza melodia. SONG SPARROW.—The Song Sparrow is among the very early spring migrants to Prince Edward County. It can be expected during the first week of April and although it may

be uncertain as to whether March birds are migrating or wintering individuals, there are records of probable migrants for March 17 (1938), March 19 (1935), and March 23 (1933). There are definite instances of the species wintering in the county. It is a common breeding bird there in summer; several nests were found in the summer of 1930.

Specimens from this area have been studied (Fleming and Snyder, 1939) and classified as intermediate between *M. m. melodia* and *M. m. euphonia*. Dorsally the feathers have a rather generous wash of dark red-brown which is also apparent on the tail. Ventrally the dark streaks are margined with the same colour. They are not as bright as birds from Nova Scotia, Quebec, or even a hundred miles northward in Ontario. They tend toward the duller, more drab Song Sparrow recently separated as *M. m. euphonia* (Wetmore, 1936). Birds in winter plumage have all the appearance of representing the breeding population rather than wintering birds from the north. One spring specimen listed below, taken on April 10, 1936, might well represent the form *M. m. juddi* which nests far to the north.

| | |
|---------------------------------|-------------------------------------|
| ♂ Jan. 30, 1937, Wellington. | 3 ♂♂ June 13, 1930, Hallowell. |
| ♂ Feb. 12, 1937, Wellington. | ♂ June 24, 1930, Hallowell. |
| ♂ Feb. 28, 1937, Wellington. | ♂ June 27, 1930, Woodrous. |
| ♂ Apr. 10, 1936, Hillier. | ♂ June 27, 1930, Hallowell. |
| 3 ♂♂ Apr. 12, 1937, Wellington. | 2 ♂♂ June 30, 1930, Point Traverse. |
| ♂ May 22, 1930, Hallowell. | ♂ July 4, 1930, Consecon. |
| ♂ May 29, 1930, Hallowell. | ♂ July 5, 1930, Hallowell. |
| ♂ June 11, 1930, Hallowell. | Juv. ♂ July 9, 1936, Hillier. |
| ♀ June 13, 1930, Hallowell. | Imm. ? Oct. 24, 1936, Hillier. |

Calcarius lapponicus. LAPLAND LONGSPUR.—We have no mid-winter records of this species and, of course, it is not found in the county in summer. It is to be expected in numbers between the migratory dates which follow—March 12 to May 20 and October 19 to November 20.

| | |
|-----------------------------|--------------------------|
| ? Mar. 20, 1937, Hillier. | ♀ May 18, 1934, Hillier. |
| 2 ? May 17, 1934, Hillier. | ♂ May 18, 1934, Hillier. |
| 2 ♂♂ May 17, 1934, Hillier. | |

Plectrophenax nivalis. SNOW BUNTING.—Our sporadic records are sufficiently numerous to demonstrate that this species may be

found in the county from October 15 to March 23. It often occurs in very large flocks about the bare winter fields and shore lines of Prince Edward County.

? Feb. 23, 1937, Hillier.

♀ Mar. 2, 1937, Hillier.

♀ Feb. 25, 1937, Hillier.

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THE AMPHIBIANS AND REPTILES OF PRINCE EDWARD COUNTY, ONTARIO

By E. B. S. LOGIER

FOREWORD

The account of the amphibians and reptiles of Prince Edward County presented in the following paper is sketchy indeed and leaves much to be desired. The field work undertaken by the writer in 1930 was assumed to be merely introductory since it was his intention to return to the county in a subsequent year and make it more complete. This proved not to be possible, so it seems advisable to present such information as is at hand for inclusion in the Prince Edward County faunal report.

Besides the members of the Museum's field party, to whom the writer's cordial thanks for co-operation are due, the names of the following persons are gratefully mentioned for assistance rendered in various ways, including the collecting of specimens and supplying of information: Mr. J. F. Brimley, Mr. G. M. Carman, Mrs. R. Istead, Mr. W. J. LeRay, Mr. W. H. Lunn, Mr. Dayton Murphy, Mr. W. J. Palmer, Mr. and Mrs. Garnet Tayler, and Mr. Homer Thomas.

The list of species includes fourteen amphibians and thirteen reptiles; it should be mentioned that some of these are based on reports only, but we see no reason to question them. Species not on our list, but which because of their distribution are likely to be found there, are the ring-necked snake, *Diadophis punctatus edwardsii*, and the ribbon snake, *Thamnophis sauritus sauritus*; two other possibilities are the two-lined salamander, *Eurycea bislineata bislineata* and the blue-tailed skink, *Eumeces fasciatus*.

A brief explanation of the methods used in taking measurements and recording them, or other features of the material, will clarify the interpretation to be placed upon the data presented. Measurements, except in the garter-snakes, are from preserved specimens. The head-body length of frogs is taken by laying the specimen on its back on the measuring board and gently pressing it straight by means of the points of a large forceps applied to the chin and ischial region. One point of the dividers is then pressed gently but firmly

to the skin covering the posterior surface of the ischial symphysis and the other very lightly to the tip of the snout. The head length is measured from the tip of the snout to the posterior margin of the tympanic ring. The hind-leg-to-heel length is obtained by pinning the specimen securely to the board and pinning the leg straight out at a right angle to the vertebral column with the foot acutely flexed at the heel, the measurement then being taken from the ischial symphysis to the heel. The tail length of snakes is measured from the posterior margin of the anal plate to the tip of the tail. In recording scale counts, numbers united by a plus sign (+) refer to scales on the same side of the head, as, oculars 1+2, indicating one preocular and two postoculars. Except in the case of the dorsal scales, numbers united by a dash (-) refer to opposite sides, as, postoculars 3-4, indicating three postoculars on one side of the head and four on the other, the number of the left side being written first. Counts of dorsal scale rows are made at several points, proceeding backward along the body, and the several counts united by a dash (unless the number of rows is constant throughout). In the turtles, the length and width of the shell were measured in a straight line between points and not over the curvature of the carapace.

AMPHIBIANS

Necturus maculosus (Rafinesque). MUDPUPPY.—There are two specimens of this salamander from Prince Edward County¹ in our collection: One procured in July, 1930, which has a snout-to-vent length of 255 mm. (the tail was damaged) and another specimen sent us from Hallowell in 1932 by Mr. H. P. Stovell which had a total length of 270 mm. That the species is more abundant than this meagre collection would suggest is indicated by the following excerpt from a letter written by Mr. Homer Thomas from Wellington on December 26, 1930: "During the Christmas vacation I observed a large number of mudpuppies in the shallow water underneath the ice which covered a very shallow sand bar. On places there were as many as three or four lying side by side and I suppose that there were three mudpuppies to the square yard all over the bar." Mr.

¹There is also in our collection a specimen collected at Deseronto, Hastings County, in 1889.

J. F. Brimley states in a letter of January 14, 1940, that they "are very plentiful in West Lake, and are found in the shallower parts, preferring weedy bottoms. For several winters about 20 or 25 years ago I fished for pike through holes in the ice and these [mudpuppies] were a great annoyance, taking the bait and being hooked." They were not much in evidence during the day or night in the early part of the summer of 1930. Bishop (1926, 8, 9) quotes Kneeland and Morse as observing these salamanders to be more in evidence in the winter months.

Triturus viridescens viridescens (Rafinesque). NEWT.—The species was collected in the vicinities of Hallowell and Picton in 1930, and at Cressy in 1939 by Mr. W. J. LeRay. It is represented in our collection mostly by larvae and terrestrial young. Larvae were taken in a pond in the woods near Picton on June 28. One-half of the pond was exposed to direct sunlight and had a good growth of vegetation, the other half was darkly shaded by trees and was almost devoid of vegetation; the newt larvae were found in the edge of the shade and all over the sunny portion. A lot of eight terrestrial young was taken on Tayler's Island near Hallowell on May 23. The species is, no doubt, common in the county where proper ponds occur.

Ambystoma jeffersonianum (Green). JEFFERSON'S SALAMANDER.—The few specimens found were collected in the vicinities of Hallowell and Picton. Larvae were taken from the same pond in the woods near Picton on June 28 where newt larvae were found, but were seen mostly in the shaded portion of the pond. Two young adults were taken on May 23, one on Garrett Island and one on Tayler's Island. A specimen was sent us from Hallowell in 1932 by Mr. H. P. Stovell. No doubt the species would be found to be common enough in the spawning season although not much in evidence later in the year.

Ambystoma maculatum (Shaw). SPOTTED SALAMANDER.—The spotted salamander was not found by the Museum party in 1930, but was collected by Mr. W. J. LeRay in 1939 in deep woods near Cressy. The writer has not seen specimens.

Plethodon cinereus (Green). RED-BACKED SALAMANDER.—A total of twenty-seven specimens was collected in the vicinities of Wellington and Hallowell in 1930; the maximum length was 99 mm. In a collection of sixteen specimens made on Garrett Island on May 23, 1930, six were dark, without the dorsal red stripe. Mr. W. J. LeRay collected the species in Adolphus Reach vicinity in 1939, but reported it to be not common.

Bufo americanus americanus Holbrook. AMERICAN TOAD.—In the early part of the summer of 1930, at least until July 10, when the writer left Prince Edward County, toads were scarce at all localities visited and only seven specimens were seen. These were collected and with one additional specimen obtained from there in 1932, constitute (aside from a few tadpoles) our entire collection of the species from that county, which consists of four males and four females. The coloration in general is dull; the dorsal stripe is absent in one and is narrowed to a thread-like line in two others. The ventral dark spotting is absent in two (one a young specimen of 33 mm.), is reduced to a faint trace just behind the throat in a third, and is also very faint in three others.

Tadpoles collected at Hallowell on May 24 ranged in length from 16 to 17.5 mm. A series collected at the Sand Banks on June 25 ranged in length from 23 to 25.5 mm. and the hind limbs were well developed. From May 23 to June 26 toads were occasionally heard in song at night with air temperatures ranging from 60° to 67° F. Mr. J. L. Baillie reported them calling at Milford on June 30. Our specimens are from Hallowell, Picton, the Sand Banks, and from an unstated locality at the Bay of Quinte. Mr. W. J. LeRay reports having taken it at Cressy in 1938 and 1939, but considers it to be not common there.

Pseudacris nigrita triseriata (Wied). SWAMP TREE-FROG.—This frog was not greatly in evidence at Prince Edward County when we arrived there on May 20, as the spawning season was then over, but was often heard calling at night during the remainder of May with air temperatures ranging from 49° to 67° F. In June the night calling became less frequent and was not noted at air temperatures above 61° F., but was heard as late as June 18 and 26 with night temperatures at 61° and 60° F.

In a pasture field north of our camp there was a swale with a shallow drainage ditch cut through it, and here tadpoles and transformation stages were collected. A series of tadpoles taken on May 23 ranged in length from 7.5 to 20.6 mm. with minute limb buds visible in specimens of more than 15 mm. On June 18 metamorphosis was well under way and there were many little froglets with their tail stumps in various stages of disappearing.

Our only locality of record in 1930 was Hallowell, but Mr. W. J. LeRay reports finding it at Cressy in 1938.

Hyla crucifer Wied. **SPRING PEEPER.**—This species did not appear to be a plentiful element in the fauna of Prince Edward County during our visit there in 1930. At Hallowell the frogs were heard piping in the afternoon of May 20, and at night on May 21, June 3 and 11. Tadpoles were collected at Hallowell, the Sand Banks, and near Picton. Mr. W. J. LeRay took the species at Cressy in 1938.

Tadpoles collected on Garrett Island near Hallowell on June 10 (with exception of one specimen of 9.5 mm.) ranged in length from 17 to 31.5 mm. with hind limbs well developed in some of the largest specimens. A series collected from a pond in the woods near Picton on June 28 showed no appreciable advance in size or development. By July 3 metamorphosis was apparently completed on Garrett Island, the tadpoles having disappeared from the pond which had become stale and overgrown.

Hyla versicolor versicolor (Le Conte). **TREE-TOAD.**—In 1930 the tree-toad was heard calling on only four occasions: in the vicinity of Hallowell on the nights of June 5, 11, and 12, and at Point Traverse early in the evening of June 30 before a thunderstorm. Neither adults nor tadpoles were found. It was collected at Cressy in 1939 by Mr. W. J. LeRay.

Rana catesbeiana Shaw. **BULLFROG.**—There are two frogs and three tadpoles in our Prince Edward County collection. A large female taken in the marsh near Hallowell on May 24, 1930, was distended with eggs. Tadpoles were collected by Mr. H. J. Dignan on June 13 and July 2 at some locality at the Bay of Quinte. The frogs were heard calling in West Lake marsh on various dates throughout

June, 1930, and once at Lake-on-the-Mountain. Mr. W. J. LeRay reported bullfrogs to be common at Prinyer's Cove in 1938 and 1939, and found their stomachs to be gorged with water beetles, probably because of the scarcity of leopard frogs. Mr. Garnet Tayler informed us that bullfrogs had been calling before the cool spell in May, 1930, some time prior to the twentieth. Our first voice record was on June 2. The species is, no doubt, common enough where proper situations occur.

Rana clamitans Latreille. GREEN FROG.—The green frog was plentiful at West Lake marsh but was not noted to be so at other places visited in 1930. It was taken at a stream in the woods about three miles west of Wellington on June 4, at a creek on the Milford road south of Picton on July 2, and at Pleasant Bay on July 4. Four specimens collected by Mr. H. J. Dignan in 1928 bear no locality data except Prince Edward County. Mr. W. J. LeRay found it at Cressy in July, 1938 and 1939, but reported it as not common.

Our first voice record in 1930 was on the night of June 3 after a warmish day with air temperature at 70°F. in the afternoon. It was heard again on the nights of June 5, 11, 12, 13, and 14 with air temperatures above 60°F.

Rana palustris Le Conte. PICKEREL FROG.—Found at Cressy in 1938 and 1939 by Mr. W. J. LeRay, who reports it to be not common there. It was not found by our party in 1930 and we have no specimens from the county.

Rana pipiens Schreber. LEOPARD FROG.—It seems perhaps reasonable to refer the leopard frogs of Prince Edward County to this species rather than to *brachycephala* (Cope) until the differences between the two are more certainly defined and established. According to Kauffeld (1937) *brachycephala* should be the species occurring in Canada. The Prince Edward County specimens appear to agree with *pipiens* in having long heads contained from 2.59 to 3.42 (average 2.91) times in the head-body length,² and in having

²We do not know how Kauffeld measured his specimens, his head measurements are widely out of agreement with ours.

well-developed shorter folds on the back between the dorsolaterals, but with *brachycephala* in having the dorsolateral folds extending onto the supraocular region and in the absence of a white tympanic spot. The hind-leg-to-heel length for our twenty-five specimens (including two from Belleville just outside Prince Edward County) ranges from 953 to 1,097 (average 997) thousandths of the head-body length: it exceeds the head-body length in eight, equals it in one, and is less in sixteen. The webbing of the hind feet usually leaves two, occasionally two and one-half or three joints of the fourth toe free, and usually one joint each of the first, second, third, and fifth toes. The spotting may be large or small and form complete or interrupted bands on the tibia.

These frogs show no significant difference from leopard frogs from Lakes St. Clair, Nipigon, and Abitibi. In the Nipigon and Abitibi specimens the webbing is inclined to be slightly more extensive, not leaving more than two joints of the fourth toe free and often reaching the tips of the other toes.³

The leopard frog was by far the commonest amphibian in the county, frequenting the usual variety of situations in which it might be expected. Our collection from there in 1930 included nine males and fourteen females. Tadpoles collected at West Lake marsh from May 24 to 29 ranged in length between 17 and 40 mm. A lot taken at the same locality on July 1 ranged from 29 to 78.5 mm., some of the larger of these were well advanced in development and in two the front limbs were about to break through. The existence in this population of tadpoles of 39.8 mm. on May 29 and of specimens as small as 29 mm. on July 1 suggests a rather long spawning season. A female containing ripe eggs was taken near Wellington on June 4.

The average length of male leopard frogs collected was 64 mm. with extremes of 40 and 79; the average of the females was 71.6 mm.

³A note on comparison of these frogs with Manitoba specimens might be of interest: For the Manitoba specimens the head length averages the same, the hind-leg-to-heel length slightly more, and the folds between the dorsolaterals are equally well developed, the latter extending over the eye. The most conspicuous differences in the Manitoba series are in their somewhat larger average size, paler ground colour and smaller spotting which does not form bands (except occasionally one or two) on the tibia, lighter mottling on posterior surface of thighs, and in the presence in some of a white tympanic spot. The webbing is inclined to be more extensive as in the Nipigon and Abitibi specimens.

with extremes of 62 and 88. The species was collected in the vicinities of Hallowell, Wellington, Pleasant Bay, Consecon, and the Sand Banks, and was seen at other localities. Mr. W. J. LeRay reports it from Prinyer's Cove, but as not plentiful.

Rana sylvatica Le Conte. WOOD FROG.—The wood frogs collected in Prince Edward County present about the same kind of picture that might be expected in a collection from any southern Ontario locality in their general violation of alleged distinctions between *sylvatica* and *cantabrigensis*, and overlapping of characters which have been assigned by various authors to one or the other form. A hind-leg-to-heel length of less than the head-body length predominates in them, occurring in eighteen out of twenty specimens, but exceeds the head-body length by 0.028 and 0.030 in the remaining two. However, it seems advisable, provisionally at least, to refer these frogs to *sylvatica* until the status of *cantabrigensis* is more certainly determined and its range delineated.

The following brief summary of characters noted will suffice for the purpose of the present paper. In our series of twenty specimens the hind-leg-to-heel length in thousandths of the head-body length is 1,028 and 1,030 in two (mentioned above); in the other eighteen it ranges from 783 to 972 and averages 946. The tibia is contained in the head-body length 1.73 and 1.75 times in the two long-legged specimens; in the eighteen short-legged specimens the range is from 1.83 to 2.32, and in eight of these is less than 1.93 (see Wright and Wright, 1933, 32). The head length is contained in the head-body length 2.7 and 2.8 times in the long-legged specimens; in the short-legged specimens (exclusive of three young in which the head is always long) the range is from 2.66 to 3.09 and averages 2.89, and is contained less than three times in ten or 66 per cent of these. Extra folds of skin on the back between the dorsolaterals are well developed in one of the long-legged specimens and poorly so in the other; in the short-legged specimens they are well developed in six, weak or fragmentary in five, and absent in seven. The internasal space is greater than the interorbital in all. Ventral mottling is absent in one of the long-legged specimens. The light dorsal and light tibial line are absent in all specimens.

The collection comprises (besides tadpoles) four males, thirteen

females, and three young, and is from the vicinities of Hallowell, Wellington, Pleasant Bay, and Picton. Mature tadpoles and metamorphosing stages were collected at a woodland pond near Wellington on July 7, 1930. Mr. W. J. LeRay found the species at Cressy in 1938 and 1939, but considers it uncommon there.

REPTILES

Opheodrys vernalis (Harlan). SMOOTH GREEN SNAKE.—We have not seen any specimens of the green snake from Prince Edward County, nor have we many reports of it from there. Mr. W. J. Palmer of Picton informed us that he had caught it at Waring's Corners crossroads. Mr. Grant M. Carman, in a letter dated April 4, 1937, stated that he "only saw one last year." There is no reason to doubt that it is commoner than this information would indicate.

Elaphe obsoleta obsoleta (Say). PILOT BLACK-SNAKE.—Our only information relating to this species was obtained from Mr. W. J. Palmer, who informed us that it was common at North Port, and that he had caught it in years past at an old well in a field near Picton. The well-established occurrence of the pilot black-snake in the counties of Frontenac and Leeds (Lindsay, 1931; and Toner, 1934) lends weight to the Prince Edward County reports.

Lampropeltis triangulum triangulum (Lacépède). MILK SNAKE.—One specimen was taken on Garrett Island on June 10, 1930, but escaped, and two were taken at Consecon Lake on July 4 of that year; they were found hiding beneath timbers on the ground beside an old barn. One of the Consecon Lake specimens was sent alive to the Department of Biology, University of Toronto. The other, a male, is in the R.O.M.Z. collection, and appears to be an average example: oculars 1+2; temporals 2+2; supralabials 7; infralabials 9; dorsal scale rows 21-17; ventrals 201; subcaudals 47; body blotches 49; tail blotches 12.

The species must be commoner than these few records would suggest.

Natrix sipedon sipedon (Linné). NORTHERN WATER SNAKE.—This snake was conspicuous by its absence in various likely-looking

places where one would have expected to have found it. One large specimen was seen at the edge of the marsh at Hallowell on several days, sunning itself on the same patch of flattened grass, but was exceedingly wary, and after escaping several times apparently found itself a new sunning place, for it was not seen any more. A three-foot-long pregnant female was taken at Cressy on July 2, 1930, sunning itself in an oat field about 40 feet from the water. The scutellation of this specimen is as follows: oculars 1+3; temporals 1+3; supralabials 8; infralabials 10; dorsal scale rows 23-21-19-17; ventrals 152; subcaudals 69.

Mr. Grant M. Carman, in a letter of April, 1937, reported the water snake as "decreasing generally." Mr. W. J. LeRay reported it as common at Cressy in 1938 and 1939.

Storeria dekayi (Holbrook). DEKAY'S SNAKE.—The little brown snake was taken at two localities in 1930, one on Garrett Island on July 5 and one at Woodrous on July 11 by Mr. T. B. Kurata. The Woodrous specimen met with an accident; the scutellation of the Garrett Island specimen follows: oculars 1+2; temporals 1+2; supralabials 7; infralabials 7; dorsal scale rows 17; ventrals 120; subcaudals 55.

In 1938 and 1939 Mr. W. J. LeRay found the species at Cressy, but not commonly.

Storeria occipito-maculata (Storer). RED-BELLIED SNAKE.—The red-bellied snake is absent from our collection of Prince Edward County reptiles. Mr. Grant M. Carman, in a letter of April 4, 1937, describes what he calls a "hill black-snake" as being "about 18 inches long—very black above, brilliant red beneath." The length is over-estimated, but the reference could not be to any other snake. A totally black dorsal colour phase does occur in Ontario and might be locally dominant in a population in Prince Edward County. A dorsally black phase with an ochre yellow vertebral stripe is found in Frontenac County and was reported to us by Mr. W. J. LeRay to be common there. Mr. LeRay found the red-bellied snake occasionally at Cressy in 1938 and 1939 but reports the colouration of the Cressy population to be normal.

Thamnophis sirtalis sirtalis (Linné). COMMON GARTER-SNAKE.

—The garter-snake was the commonest snake although not apparently abundant. We collected fourteen specimens, seven of each sex. The localities represented are the vicinities of Hallowell and West Lake marsh, Lake-on-the-Mountain, and near Waupoos. Mr. W. J. LeRay found it to be fairly common at Cressy in 1938 and 1939. In most of our specimens the scutellation is as follows: oculars 1+3; temporals 1+2; supralabials 7; infralabials 10; dorsal scale rows 19-17; ventrals, males 150-157, females 143-152; subcaudals, males 62-78, females 61-71 (exclusive of two specimens with damaged tails). Exceptions are in one male and four females as follow: male, infralabials 9-10, dorsal scale rows 21-19-17; female, postoculars 3-4, dorsal scale rows 21-19-17; female, posterior temporals 3-2, dorsal scale rows 20-19-17; female, postoculars 4-3. The extra rows of dorsal scales occur as short series on the neck. In the males the tail averages 0.236 and in females 0.206 of the total length (exclusive of two specimens with damaged tails). Five of the females collected from May 22 to July 3 contained embryos.

Sistrurus catenatus catenatus (Rafinesque). MASSASAUGA.—

We have not seen any specimens of rattlesnakes from Prince Edward County but have a number of reports which doubtless refer to the massasauga. Mr. W. J. Palmer informed us that he killed two rattlesnakes near Demorestville in 1929. Mr. W. H. Lunn informed us that a pioneer, Lieutenant Paul Trumpour, had a farm near Consecon in the late 1700's, and that according to a descendant of his, Mr. Wilfred Trumpour of Hillier, Lieutenant Trumpour gave up the farm because of the abundance of rattlesnakes. From the same source (Mr. Lunn) we learned from a letter written about 1937 that Mr. Don Fraser killed a rattlesnake at North Port about 1912, and that Mr. Albert Rowe killed one there about 1928 or 1929. Mr. Grant M. Carman in a letter of April, 1937, says that "the rattlesnake is nearly extinct but they certainly were numerous a very few years ago," and also "in one spot, Macdonald's Island, they are increasing." He states that his father killed one of about 27 inches in length in 1925 or 1926.

There is a creek called "Rattlesnake Creek" about one mile east of Carrying Place, and supposed to be so named because of the

abundance of rattlesnakes there in former years, and a bay of the Bay of Quinte is named Massasauga Bay.

Sternotherus odoratus (Latreille). MUSK TURTLE.—Three specimens collected near Wellington by Mr. Dayton Murphy about June 15, 1936, are the only Prince Edward County specimens in the Museum collection. They are females and measure 90.5, 115, and 127 mm. in carapace length; the widths are, respectively, 65, 79, and 88.5 mm. The species should be common in various of the sheltered regions which are numerous in the shore-waters of the county. Mr. W. J. LeRay saw one specimen at Prinyer's Cove and also a dried shell.

Chelydra serpentina (Linné). SNAPPING TURTLE.—This is another turtle which must be commoner than our records would indicate. On June 15, 1930, a set of eleven eggs was collected by Mrs. Ruby Istead from beside the C.N.R. tracks east of Hallowell. A female collected by Mrs. Garnet Tayler on June 16 on Tayler's farm at Hallowell measured 11 inches in carapace length. It is now in the Museum collection. An unfinished nest from which the turtle had been frightened away after dropping only a few eggs was seen on Tayler's farm on June 24.

Emys blandingii (Holbrook). BLANDING'S TURTLE.—Our records of this turtle from Prince Edward County are as follow: one was taken at Waupoos Island on July 14, 1928, by Mr. H. J. Dignan; one at Gerow Gore on July 14, 1930, by Mr. J. L. Baillie; one seen at Big Island, Bay of Quinte, on October 1, 1930, by Mr. Charles Melton. Mr. W. J. LeRay reported seeing it at Prinyer's Cove in 1938 and 1939, and residents informed him that it is numerous there in the spring. There are two records from Belleville, Hastings County (Macoun *et al.*, 1902, 136).

The specimen in our collection is the one from Gerow Gore, an old male with the top of the carapace much depressed. The light mottling on the carapace is small and close and the ground colour practically black. It measures 227 mm. in carapace length and 155 mm. in width.

Graptemys geographica (Le Sueur). MAP TURTLE.—The map turtle was not seen during our stay at Prince Edward County in 1930. There are two specimens in the Museum collection taken at some point on the Bay of Quinte in 1927, but there is no collector's name or other data on the labels attached to them. They are young males of 122 and 134 mm. in carapace length, the widths are, respectively, 93 and 104 mm. Mr. W. J. LeRay informed us that he had seen it occasionally at Prinyer's Cove in 1938 and 1939, and that it is said to be abundant there in the spring.

Chrysemys bellii marginata Agassiz. WESTERN PAINTED TURTLE.—Eighteen specimens, all females, were collected in June, 1930, in the vicinities of Hallowell and Wellington, but were not all retained. On June 5, Mrs. R. Istead reported them to be nesting beside the C.N.R. track east of Hallowell and brought back a number of turtles and a few eggs. The nesting females examined ranged from 141 to 165 mm. in carapace length. Of the nine Prince Edward County specimens in our collection, two lack the plastral dark blotch and a third shows a mere trace of it on the abdominal and femoral scutes; in the other six it is faint in two, incomplete in one, and dark in three. Some general idea of the size of this blotch may be obtained from the following approximate proportions: length 0.55 to 0.81 (average 0.68) of plastral length; greatest width (at abdomino-femoral suture) 0.24 to 0.50 (average 0.39) of total plastral width across abdominals, or 0.31 to 0.63 of the flat surface; narrowest central width (on abdominals) 0.19 to 0.36 (average 0.28) of total plastral width, or 0.25 to 0.48 of flat surface. The above figures for the width of the plastral dark blotch show an average only 3 per cent more than those of Bishop and Schmidt (1931, 131-133) for *marginata*. The dorsal scutellation and colour pattern in all of these specimens were normal for this form in Ontario.

Mr. W. J. LeRay reported it to us as common at Prinyer's Cove, and there is no reason to doubt that it is common all over the county where suitable situations occur.

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A LIST OF THE SPIDERS OF PRINCE EDWARD COUNTY ONTARIO

By T. B. KURATA

As one aspect of the faunal survey of Prince Edward County prosecuted by the Royal Ontario Museum of Zoology, a collection of spiders was made by the writer. Eight thousand specimens were obtained from more than thirty localities during July and August, 1930. A description of the county will not be given here, as it may be found elsewhere in the series. It is sufficient to observe at this point that the chief types of spider habitats were encountered within the bounds of the county. These were: shrubs and trees, under loose bark, rock-piles, leaf mould, meadows, beaches, reeds, and rushes.

The accompanying list contains 165 species of spiders. Of that number, 38 species are recorded herein for the first time for the province. This should not be interpreted as indicating a large endemic fauna for the county. It means rather that the distribution of our spiders has received little attention from local naturalists. The arachnid fauna of Prince Edward County is similar to that found in the north-eastern section of the United States.

EXPLANATION OF LIST

In the list the taxonomy is that given by Alexander Petrunkevitch, 1911, "A Synonymic Index—Catalogue of Spiders of North and Central and South America," American Museum of Natural History, Bull., vol. XXIX. The detailed localities of capture are given for the rarer species, but in the case of the more common spiders, only the number of different localities represented is mentioned.

N—New record to Ontario.

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| Species | Number localities | Number individuals | Habitat |
|--------------------------------------|-------------------|--------------------|-----------------------------------|
| ULOBORIDAE | | | |
| <i>Uloborus</i> | | | |
| (N) <i>U. americanus</i> Wlk. | 1 | 4 | Shrubs |
| DICTYNIDAE | | | |
| <i>Amaurobius</i> | | | |
| (N) <i>A. americanus</i> (Em.) | Wellington | 4 | Under loose stones |
| " <i>bennetti</i> (Blackw.) | 11 | 18 | Under stones and in hollow stumps |
| <i>Dictyna</i> | | | |
| (N) <i>D. bicornis</i> Em. | Pleasant Bay | 1 | Shrubs and trees |
| (N) " <i>bostoniensis</i> Em. | 4 | 4 | " " " |
| (N) " <i>brevipalpis</i> Em. | 3 | 5 | " " " |
| " <i>brevitarsis</i> Em. | 2 | 7 | " " " |
| " <i>foliacea</i> (Htz.) | 7 | 23 | " " " |
| " <i>minuta</i> Em. | 3 | 5 | " " " |
| " <i>phylax</i> Gertsch & Ivie | Rednersville | 3 | " " " |
| " <i>sublata</i> (Htz.) | 18 | 148 | " " " |
| (N) " <i>vigilans</i> Gertsch & Ivie | 2 | 2 | " " " |
| " <i>volucripes</i> Key. | 6 | 6 | " " " |
| DRASSIDAE | | | |
| <i>Drassodes</i> | | | |
| <i>D. neglectus</i> (Key.) | 10 | 25 | Under stones and leaves |
| " <i>robustus</i> (Em.) | 2 | 2 | " " " " |
| <i>Drassus</i> | | | |
| (N) <i>D. bicornis</i> Em. | Wellington | 1 | " " " " |
| " <i>hiemalis</i> Em. | " | 1 | " " " " |
| <i>Gnaphosa</i> | | | |
| <i>G. gigantea</i> Key. | 4 | 4 | " " " " |
| <i>Herpyllus</i> | | | |
| <i>H. vasifer</i> (Walck.) | 4 | 6 | " " " " |
| <i>Zelotes</i> | | | |
| <i>Z. ater</i> (H.) | 3 | 6 | " " " " |

| Species | Number localities | Number individuals | Habitat |
|--------------------------------|----------------------|--------------------|--|
| THERIDIIDAE | | | |
| <i>Crustulina</i> | | | |
| <i>C. guttata</i> (Wider.) | 2 | 4 | Among fallen leaves |
| <i>Dipoena</i> | | | |
| (N) <i>D. buccalis</i> Key. | Consecon L. | 2 | Shrubs close to ground among fallen leaves |
| " <i>nigra</i> (Em.) | 7 | 20 | " " " " |
| <i>Euryopis</i> | | | |
| <i>E. funebris</i> (Htz.) | 5 | 12 | " " " " |
| <i>Steatoda</i> | | | |
| <i>S. borealis</i> (Htz.) | 7 | 16 | Shrubs and in buildings |
| <i>Theridion</i> | | | |
| <i>T. differens</i> Em. | 10 | 65 | Shrubs |
| " <i>frondeum</i> Htz. | 20 | 288 | " |
| (N) " <i>globosum</i> Htz. | Lake on the Mountain | 1 | " |
| " <i>murarium</i> Em. | 17 | 112 | " |
| (N) " <i>rupicola</i> Em. | 2 | 2 | Among rocks |
| " <i>sexpunctatum</i> Em. | Wellington | 1 | Shrubs |
| " <i>spirale</i> Em. | 20 | 448 | Shrubs |
| " <i>tepidariorum</i> C. Koch. | 4 | 26 | In cellars and out-buildings |
| " <i>unimaculatum</i> Em. | North Bay | 1 | Shrubs |
| LINYPHIIDAE | | | |
| <i>Bathypantes</i> | | | |
| (N) <i>B. canadensis</i> (Em.) | West Bay | 2 | Shrubs close to ground |
| " <i>concolor</i> (Reuss.) | Huyck Bay | 1 | " " " " |
| " <i>nigrinus</i> (Westr.) | 2 | 2 | " " " " |
| (N) " <i>pallescens</i> Bks. | Huyck Bay | 3 | " " " " |
| " <i>subalpinus</i> Em. | 3 | 3 | " " " " |
| " <i>zebra</i> Em. | 2 | 2 | " " " " |
| <i>Ceraticelus</i> | | | |
| <i>C. emertoni</i> (Cambr.) | 2 | 2 | " " " " |
| " <i>fissiceps</i> (Cambr.) | 6 | 6 | " " " " |
| (N) " <i>formosus</i> (Bks.) | Waupoos | 1 | " " " " |
| " <i>laetabilis</i> (Cambr.) | Lake on the Mountain | 1 | " " " " |
| (N) " <i>pygmaeus</i> (Em.) | Long Point | 1 | " " " " |
| <i>Ceratinopsis</i> | | | |
| <i>C. interpres</i> (Cambr.) | Rednersville | 1 | " " " " |

| Species | Number localities | Number individuals | Habitat |
|-------------------------------|-------------------|--------------------|-----------------------------------|
| LINYPHIIDAE— <i>Cont.</i> | | | |
| <i>Grammonota</i> | | | Shrubs close to ground |
| <i>G. pictilis</i> (Cambr.) | 5 | 11 | " " " " |
| <i>Hypselistes</i> | | | |
| <i>H. florens</i> (Cambr.) | 1 | 3 | Shrubs near ground; in leaf mould |
| <i>Lepthyphantes</i> | | | |
| <i>L. minutus</i> (Blackw.) | 3 | 8 | " " " " |
| <i>Linyphia</i> | | | |
| <i>L. clathrata</i> Sund. | 4 | 4 | Shrubs |
| " <i>communis</i> Htz. | 3 | 3 | " |
| " <i>insignis</i> Blackw. | 5 | 16 | " |
| (N) " <i>lineata</i> (L.) | Hallowell | 1 | Shrubs and leaf mould |
| " <i>marginata</i> C. Koch. | 12 | 45 | Shrubs |
| " <i>phrygiana</i> C. Koch. | 14 | 298 | " |
| " <i>pusilla</i> Sund. | 6 | 26 | " |
| <i>Microneta</i> | | | |
| <i>M. latidens</i> Em. | Wellington | 1 | Shrubs and leaf mould |
| " <i>quinquedentata</i> Em. | Huyck Bay | 1 | " " " " |
| " <i>viaria</i> (Blackw.) | Long Point | 1 | " " " " |
| <i>Oedothorax</i> | | | |
| <i>O. decemoculatus</i> (Em.) | 3 | 8 | " " " " |
| <i>Prosopotheca</i> | | | |
| (N) <i>P. auranticeps</i> Em. | 3 | 5 | In leaf mould |
| " <i>directa</i> (Cambr.) | 3 | 5 | " " " |
| ARGIOPIDAE | | | |
| <i>Araneus</i> | | | |
| <i>A. angulatus</i> Cl. | Wellington | 2 | Shrubs and trees about dwellings |
| " <i>arabesca</i> (Wlk.) | 24 | 218 | Shrubs and trees |
| " <i>cavaticus</i> (Key.) | Fish Lake | 2 | " " |
| " <i>cornutus</i> Cl. | 7 | 14 | Shrubs and trees |
| " <i>cucurbitinus</i> Cl. | 6 | 15 | " " |
| " <i>marmoreus</i> Cl. | 5 | 36 | " " |
| " <i>patagiatus</i> Cl. | 10 | 98 | " " |
| " <i>sericatus</i> Cl. | 13 | 229 | " " |
| " <i>trifolium</i> (Htz.) | 5 | 10 | " " |
| <i>Argiope</i> | | | |
| <i>A. aurantia</i> Lucas | Wellington | 2 | Garden and marsh |

| Species | Number localities | Number individuals | Habitat |
|---------------------------------|-------------------|--------------------|------------------------------|
| ARGIOPIDAE— <i>Cont.</i> | | | |
| <i>Cyclosa</i> | | | |
| <i>C. conica</i> (Pallas) | 3 | 6 | Shaded portion of woods |
| <i>Eucta</i> | | | |
| <i>E. lacerta</i> (Walck.) | 4 | 21 | Tall grass in wet situations |
| " <i>vermiformis</i> (Em.) | Fish Lake | 2 | " " " " |
| <i>Eugnatha</i> | | | |
| <i>E. straminea</i> (Em.) | 2 | 4 | Tall grass in wet situations |
| <i>Eustala</i> | | | |
| <i>E. anastera</i> (Walck.) | 3 | 34 | Shrubs and trees |
| <i>Leucauge</i> | | | |
| <i>L. venusta</i> Walck. | 4 | 4 | " " |
| <i>Mangora</i> | | | |
| <i>M. gibberosa</i> (Htz.) | 2 | 4 | " " |
| <i>Pachgnatha</i> | | | |
| <i>P. tristriata</i> C. Koch | Wellington | 1 | " " |
| <i>Tetragnatha</i> | | | |
| <i>T. elongata</i> Walck. | 2 | 10 | In wet situations |
| " <i>extensa</i> (L.) | 20 | 837 | Shrubs and wet situations |
| " <i>laboriosa</i> Htz. | 16 | 46 | " " " |
| MIMETIDAE | | | |
| <i>Mimetus</i> | | | |
| <i>M. intersector</i> Htz. | Rednersville | 1 | Shrub |
| THOMISIDAE | | | |
| <i>Misumena</i> | | | |
| <i>M. vatia</i> (Cl.) | 9 | 59 | Shrubs and trees |
| <i>Misumenoides</i> | | | |
| (N) <i>M. aleatorius</i> (H.) | Fish Lake | 1 | " " |
| <i>Misumenops</i> | | | |
| <i>M. oblongus</i> (Key.) | Wellington | 1 | " " |
| <i>Philodromus</i> | | | |
| <i>P. aureolus</i> (Cl.) | 20 | 349 | " " |
| " <i>ornatus</i> Bks. | 7 | 12 | " " |
| " <i>pernix</i> Blackw. | 7 | 82 | " " |
| " <i>rufus</i> Walck. | 5 | 6 | " " |
| <i>Thanatus</i> | | | |
| (N) <i>T. coloradensis</i> Key. | Fish Lake | 1 | " " |

| Species | Number localities | Number individuals | Habitat |
|---------------------------------|-------------------|--------------------|---|
| THOMISIDAE— <i>Cont.</i> | | | |
| <i>Tibellus</i> | | | |
| <i>T. duttoni</i> Key. | 2 | 2 | Shrubs and trees |
| " <i>oblongus</i> Walck. | 5 | 6 | " " |
| <i>Xysticus</i> | | | |
| <i>X. brunneus</i> Bks. | Wellington | 1 | Ground in rubbish |
| " <i>ferox</i> (Htz.) | 2 | 2 | " " |
| " <i>formosus</i> Bks. | 2 | 6 | " " |
| (N) " <i>graminis</i> Em. | Hallowell | 1 | " " |
| (N) " <i>luctans</i> (C. Koch.) | 2 | 2 | " " |
| " <i>versicolor</i> (Key.) | 2 | 2 | " " |
| CLUBIONIDAE | | | |
| <i>Agroeca</i> | | | |
| <i>A. pratensis</i> Em. | Wellington | 1 | Under leaves and on low vegetation |
| <i>Castaneira</i> | | | |
| <i>C. cingulata</i> (C. Koch.) | 2 | 2 | Under stones and other loose objects on ground in dry open places |
| (N) <i>C. descripta</i> (Htz.) | Irvine Gore | 1 | " " " |
| <i>Clubiona</i> | | | |
| <i>C. abboti</i> L. Koch. | 12 | 31 | On trees and under loose stones |
| " <i>canadensis</i> Em. | 11 | 48 | On trees |
| (N) " <i>moesta</i> Bks. | Garrett Island | 1 | On trees and under loose stones |
| " <i>obesa</i> Htz. | 2 | 12 | " " " |
| (N) " <i>pallens</i> Htz. | Wellington | 1 | " " " |
| (N) " <i>praematura</i> Em. | Hallowell | 3 | " " " |
| (N) " <i>pusilla</i> Em. | 5 | 26 | " " " |
| " <i>riparia</i> L. Koch | 4 | 7 | " " " |
| <i>Micaria</i> | | | |
| <i>M. gentilis</i> Bks. | Wellington | 6 | Under stones and among leaves |
| (N) " <i>montana</i> Em. | Wellington | 1 | " " " |
| <i>Phrurolithus</i> | | | |
| <i>P. alarius</i> (Htz.) | 3 | 4 | " " " |

| Species | Number localities | Number individuals | Habitat |
|--|----------------------|--------------------|--|
| AGELENIDAE | | | |
| <i>Agelena</i> <i>A. naevia</i> Walck. | 18 | 83 | Most common spider in Canada. Found on short grass in meadows, on trees, and the corner of buildings |
| <i>Antistea</i> <i>A. riparia</i> (Key.) | Lake on the Mountain | 2 | Among fallen leaves |
| <i>Cicurina</i> <i>C. brevis</i> (Em.) | Wellington | 1 | Among fallen leaves, shrubs close to ground |
| " <i>pallida</i> Key. <i>Coelotes</i> | Garrett Island | 2 | " " " |
| <i>C. fidelis</i> Bks. | 4 | 4 | Among fallen leaves and under other loose objects |
| " <i>montanus</i> Em. <i>Coras</i> | 4 | 7 | " " " |
| <i>C. medicinalis</i> (Htz.) <i>Hahnia</i> | Garrett Island | 1 | " " " |
| <i>H. agilis</i> Key. <i>Tegenaria</i> | 2 | 3 | " " " |
| <i>T. domestica</i> (Cl.) | 4 | 9 | Found about buildings |
| PISAURIDAE | | | |
| <i>Dolomedes</i> <i>D. triton sexpunctatus</i> Htz. | 5 | 37 | Found in damp woods |
| <i>Pisaurina</i> <i>P. mira</i> (Walck.) | Rednersville | 1 | On the plant heads in a sunny place |
| LYCOSIDAE | | | |
| <i>Arctosa</i> <i>A. cinerea</i> (Fabricius) | 3 | 34 | Found on sandy beach, often buried in the sand |
| <i>Lycosa</i> <i>L. avida</i> Walck. | near Picton | 1 | In open field often under loose stones |
| " <i>frondicola</i> Em. | 3 | 3 | In woods among leaves |

| Species | Number localities | Number individuals | Habitat |
|------------------------------------|----------------------|--------------------|-------------------------------------|
| LYCOSIDAE—Cont. | | | |
| <i>L. helluo</i> Walck. | Picton | 1 | Found under stones |
| " <i>pratensis</i> Em. | 3 | 9 | Under stones |
| <i>Pardosa</i> | | | |
| <i>P. distincta</i> (Blackw.) | 4 | 8 | Under stones and rocks |
| " <i>lapidicina</i> Em. | 7 | 22 | " " " |
| " <i>milvina</i> (Htz.) | 2 | 12 | Under stones in open, grassy places |
| " <i>modica</i> (Blackw.) | 3 | 7 | " " " |
| " <i>moesta</i> Bks. | 8 | 13 | Under stones |
| " <i>saxatilis</i> (Htz.) | 2 | 3 | " " |
| " <i>xerampelina</i> Key. | 3 | 4 | " " |
| <i>Pirata</i> | | | |
| <i>P. arenicola</i> Em. | Huyck Bay | 1 | " " |
| (N) " <i>exiguus</i> Bks. | Pleasant Bay | 1 | " " |
| (N) " <i>febriculosus</i> (Becker) | 3 | 3 | " " |
| " <i>insularis</i> Em. | 2 | 3 | " " |
| " <i>marxi</i> Stone. | 3 | 4 | " " |
| " <i>minutus</i> Em. | 4 | 5 | " " |
| " <i>montanoides</i> Bks. | 2 | 8 | " " |
| (N) " <i>prodigiosus</i> Keys. | 5 | 13 | " " |
| (N) " <i>sylvestris</i> Em. | 5 | 9 | " " |
| <i>Schizocosa</i> | | | |
| (N) <i>S. bilineata</i> Em. | Wellington | 1 | " " |
| " <i>crassipalpis</i> (Em.) | 3 | 12 | " " |
| (N) " <i>crassipes</i> (Walck.) | Picton | 1 | " " |
| (N) " <i>saltatrix</i> (Htz.) | 3 | 4 | " " |
| SALTICIDAE | | | |
| <i>Evarcha</i> | | | |
| <i>E. hoyi</i> (Peckham.) | 6 | 17 | Shrubs and trees |
| <i>Habrocestum</i> | | | |
| <i>H. pulex</i> (Htz.) | 3 | 8 | Shrubs and trees |
| <i>Icius</i> | | | |
| (N) <i>I. formicarius</i> Em. | Lake on the Mountain | 1 | Among leaves |
| <i>Marpissa</i> | | | |
| (N) <i>M. undata</i> (DeGeer.) | North Bay | 4 | On bark of hickory trees |
| <i>Metaphidippus</i> | | | |
| <i>M. capitatus</i> (Htz.) | 16 | 117 | Shrubs |
| " <i>flavipedes</i> Peckham. | 10 | 51 | " |

| Species | Number localities | Number individuals | Habitat |
|--------------------------------|----------------------|--------------------|--|
| SALTICIDAE— <i>Cont.</i> | | | |
| <i>Paraphidippus</i> | | | Shrubs |
| <i>P. marginatus</i> Walck. | 10 | 77 | " |
| <i>Pellenes</i> | | | |
| (N) <i>P. borealis</i> Bks. | Wellington | 1 | Shrubs and among fallen leaves |
| <i>Phidippus</i> | | | |
| <i>P. audax</i> Htz. | 2 | 2 | Under stones and other objects on ground |
| (N) " <i>clarus</i> Key. | 2 | 2 | " " " |
| " <i>purpuratus</i> Key. | 5 | 7 | " " " |
| " <i>whitmanni</i> Peck. | Lake on the Mountain | 1 | " " " |
| <i>Salticus</i> | | | |
| <i>S. scenicus</i> Cl. | 8 | 50 | On shrubs, on stones, and on walls of houses |
| <i>Tutelina</i> | | | |
| <i>T. elegans</i> (Htz.) | 3 | 21 | Among fallen leaves |
| <i>Wala</i> | | | |
| (N) <i>W. mitrata</i> (Htz.) | Wellington | 4 | On shrubs and sometimes on bark of trees |
| <i>Zygoballus</i> | | | |
| (N) <i>Z. nervosus</i> (Peck.) | Wellington | 1 | On stones, shrubs |

AN ANNOTATED LIST OF THE CRICKETS AND GRASS-
HOPPERS (ORTHOPTERA: SALTATORIA) OF PRINCE
EDWARD COUNTY, ONTARIO

By F. A. URQUHART

The following is a list of the various species of Orthoptera known to occur in Prince Edward County together with those which, although not actually taken or observed (designated by an asterisk) are most likely present in this locality. The latter inference is based upon specimens which have been taken in localities adjacent to Prince Edward County.

ENSIFERA

Gryllidae

Oecanthus nigricornis F. Walker.—Abundant in pastures throughout Prince Edward County. Picton: Aug. 7, 1939, 2♂.

Oecanthus niveus (DeGeer).—Decidedly less abundant than *O. nigricornis*. Wellington: July 27, 1922, 1♂; Aug. 14, 1938, 1♂; Aug. 21, 1916, 1♂ (J. F. Brimley).

Nemobius fasciatus fasciatus (DeGeer).—Common in pastures throughout Prince Edward County. Wellington: Sept. 17, 1926, 1♀; Picton: Aug. 8, 1939, 3♂, 1♀ (J. F. Brimley).

Nemobius fasciatus socius Scudder.—Of common occurrence in grassy areas at the margins of marshes and creeks. Picton: Aug. 7, 1939, 3♂, 2♀, 3 nymphs.

***Nemobius griseus griseus** E. M. Walker.—Since this species has been taken at Lake Simcoe, Toronto, Sarnia, and as far north as Fort William, it may occur in rather sandy areas in parts of Prince Edward County.

Nemobius carolinus carolinus Scudder.—Of common occurrence in wooded areas. Picton: Aug. 7, 1939, 1♀.

Gryllulus assimilis luctuosus Serville.—Abundant in grassy areas, such as pastures and the like. Wellington: Sept. 7, 1936, 1♀ (J. F. Brimley); Picton: Aug. 7, 1939, 1♂.

***Gryllulus assimilis pennsylvanicus** Burmeister.—This form of *G. assimilis* undoubtedly occurs in Prince Edward County during

June and early July, since it has been taken in a great number of localities throughout Ontario.

Rhaphidophoridae

***Tachycines asynamorus** Adelung.—This adventive species has become established in greenhouses in many parts of Ontario; hence, it will undoubtedly occur in similar situations in parts of Prince Edward County.

***Ceuthophilus maculatus** (Harris).—This species has been taken in wooded areas throughout southern Ontario; it will undoubtedly occur in similar situations in Prince Edward County.

Tettigoniidae

Orchelimum gladiator Bruner.—Abundant in marshes and meadows. Picton: Aug. 8, 1939, 9 ♂, 8 ♀. Although this is the only species of *Orchelimum* taken in Prince Edward County, it is quite likely that *O. vulgare* is also present in marsh areas.

Conocephalus fasciatus fasciatus (DeGeer).—Abundant in marshes, meadows, and the tall grass at the margins of pastures and the like. Picton: Aug. 8, 1939, 1 ♀.

Conocephalus brevipennis (Scudder).—Of common occurrence in long grass at the margins of marshes and in meadows.

***Conocephalus nigropleurus** (Bruner).—This species has been taken at Point Pelee, Toronto, and Brockville; it will most likely occur in marsh areas of Prince Edward County.

Conocephalus attenuatus (Scudder).—Of common occurrence in marsh areas. Picton: Aug. 8, 1939, 1 ♂, 2 ♀.

Neoconocephalus ensiger (Harris).—Of common occurrence in the tall grass at the margins of pastures and meadows. Wellington: Sept. 1, 1918, 1 ♂; July 25, 1937, 1 ♀ (J. F. Brimley).

Scudderia pistillata Bruner.—Of common occurrence in bushes and tall grass at the margins of pastures and meadows. Wellington: Sept. 2, 1926, 1 ♂, 1 ♀; Aug. 8, 1936, 1 ♂.

Scudderia curvicauda curvicauda (DeGeer).—Of common occurrence in the long grass at the margins of pastures and in small bushes and the like.

Scudderia furcata furcata Brunner.—Notes as for *S. curvicauda*.

***Scudderia texensis** Saussure and Pictet.—The apparent distribution of this species in Ontario is rather peculiar; specimens of it have been taken in extreme western Ontario and from Brockville and Lancaster in south-eastern Ontario. It apparently does not occur in the vicinity of Toronto. Specimens have been taken at Trenton (Canadian National Collection, Ottawa); hence, it probably occurs in parts of Prince Edward County.

***Amblycorypha oblongifolia** (DeGeer).—This species probably occurs in parts of Prince Edward County, since specimens of it have been taken at Trenton (Collection of the Ontario Agricultural College, Guelph). The distribution of this species in Ontario is similar to that of *Scudderia texensis*.

CAELIFERA

Tridactylidae

Tridactylus apicalis Say.—Of occasional occurrence at the sandy margins of creeks and ponds. Wellington: April 28, 1925, 1 specimen (J. F. Brimley).

Acrydiidae

Acrydium subulatum (L.).—Of common occurrence in pastures, meadows, and the sandy margins of pools. Wellington: April 11, 1915, 1 ♂, 2 ♀; Sept. 24, 1920, 1 nymph; Feb. 6, 1921, 1 ♂; March 20, 1927, 1 ♀; June 5, 1935, 1 ♂; Sept. 27, 1935, 1 ♀ (J. F. Brimley); Picton: Aug. 7, 1939, 1 nymph.

Acrydium ornatum (Say).—In grassy areas especially at the margins of woods.

Acrydium arenosum angustum (Hancock).—Notes as for *A. ornatum*.

Paratettix cucullatus (Burmeister).—This small grouse locust inhabits moist situations such as the water-saturated sand at the margins of creeks or the humid mud flats at the margins of ponds.

Tettigidea lateralis parvipennis (Harris).—This species is most likely of common occurrence in pastures throughout Prince Edward County. Wellington: June 1, 1919, 1 ♂; April 29, 1921, 1 ♀; Oct. 27, 1935, 1 ♂, 2 ♀; May 17, 1938, 1 ♀; April 23, 1939, 1 ♀ (J. F. Brimley).

Acrididae

Orphulella speciosa (Scudder).—Abundant in rather dry pastures and the grassy margins of roadways. Picton: Aug. 7, 1939, 21 ♂, 16 ♀.

Chloealtis conspersa Harris.—This species is of common occurrence in grassy areas at the margins of woods or along the margins of woodland paths during July.

Chorthippus longicornis (Latreille).—Of common occurrence in rather long grass at the margins of pastures. Picton: Aug. 7, 1939, 1 ♂.

Chortophaga viridifasciata (DeGeer).—Of common occurrence during early summer in pastures and the like. Wellington: May 14, 1922, 1 ♀; June 8, 1927, 1 ♂; July 16, 1929, 1 ♂; May 30, 1937, 1 ♀ (J. F. Brimley).

Encoptolophus sordidus sordidus (Burmeister).—Common in rather dry pastures and the grassy margins of roadways. Picton: Aug. 7, 1939, 4 ♂, 4 nymphs.

Camnula pellucida Scudder.—This species is of common occurrence in grass areas, especially dry, sandy pastures.

Dissosteira carolina (L.).—Common in rather dry pastures and on sandy roadways. Picton: Aug. 7, 1939, 1 ♂.

Spharagemon bolli Scudder.—Of common occurrence in areas of short grass such as pastures or the margins of roadways.

***Spharagemon collare wyomingianum** (Thomas).—This species most likely occurs in sandy areas in parts of Prince Edward County, since specimens have been taken at Chatterton in Hastings County.

***Trimerotropis maritima interior** E. M. Walker.—This species may occur on the sand dunes of Prince Edward County, although Toronto is the most easterly record for Ontario.

Melanoplus bivittatus (Say).—Of common occurrence in rather long grass at the margins of pastures and meadows. Wellington: Sept. 18, 1927, 1 ♀ (J. F. Brimley); Picton: Aug. 7, 1939, 2 nymphs.

Melanoplus femur-rubrum femur-rubrum (DeGeer).—Abundant throughout Prince Edward County in pastures and the like. Picton: Aug. 7, 1939, 5 ♂, 2 ♀.

Melanoplus mexicanus mexicanus (Saussure).—Abundant in pastures throughout Prince Edward County. Picton: Aug. 7, 1939, 5 ♂, 2 ♀.

Melanoplus fasciatus (F. Walker).—Of fairly common occurrence in grassy areas, especially hillsides.

A LIST OF THE LONG-HORNED BEETLES (CERAMBYCIDAE) OF PRINCE EDWARD COUNTY, ONTARIO

By J. F. BRIMLEY

In addition to the papers prepared by members of the Museum's staff, based on their field work in Prince Edward County, we are able to present the following list by Mr. J. F. Brimley, a naturalist resident in Wellington, who for many years has studied the Coleoptera of the county. The family Cerambycidae is particularly well represented in his collection. The ninety-seven species tabulated below are based on specimens collected in Prince Edward County.

—CURATOR, DIVISION OF INSECTS

- Parandra brunnea* (Fab.).—In the hollow trunks of basswood.
Derobrachus brunneus (Forst.).—On white pine and at light.
Tragosoma harrisi Lec.—Rare. Wellington: June 17, 1921.
Asemum moestum Hald.
Criocephalus agrestis (Kby.).—Taken at light.
Tylonotus bimaculatus Hald.—Rare. Wellington: July 19, 1914;
July 15, 1923.
Elaphidion villosus Fab.—Common on hickory.
Pseudibidion unicolor (Rand.).
Heterachthes quadrimaculatus (Fab.).—Rare. Wellington: Aug. 13,
1922; July 13, 1929.
Obrium rufulum Gahan.—Common on dead branches of ash.
Pidonia ruficollis Say.—Abundant on blossoms of hawthorn and
dogwood.
Centrodera decolorata (Harris).—Wellington: July 11, 1914.
Toxotus schaumii Lec.—On wild grape; one specimen.
Toxotus vittiger Rand.—Abundant on blossoms of spiraea and haw-
thorn.
Acmaeops pratensis (Laich.).—Rare. Wellington: July 4, 1926.
Gaurotes cyanipennis (Say).—Abundant on blossoms, especially
those of the hawthorn.
Grammophera exigua Newm.—Common on blossoms of hawthorn.
Grammophera subargentata Kby.—On blossoms of hawthorn and
dogwood.
Grammophera ruficeps (Lec.).—On blossoms of hawthorn.
Alosterna capitata (Newm.).—Common on blossoms of hawthorn
and dogwood.

- Charisalia americana* (Hald.).—On blossoms of hawthorn; one specimen. Wellington: July 12, 1929.
- Anthophylax malachiticus* Hald.—Rare; on small trees of white pine.
- Anthophylax attenuatus* Hald.—On dead beech and maple stumps.
- Leptura subarmata* Rand.—Wellington: June 18, 1922; July 13, 1927.
- Leptura plebeja* Rand.—One specimen.
- Leptura lineola* Say.—Fairly abundant on spiraea.
- Anoplodera mutuabilis* Newm.—Fairly abundant on blossoms.
- Anoplodera biforis* Newm.—Wellington: July 15, 1932; July 9, 1933.
- Anoplodera proxima* Say.—Fairly abundant on spiraea.
- Anoplodera minnesotana* Csy.—Fairly abundant on spiraea.
- Anoplodera canadensis* Fab.—On dead spruce.
- Anoplodera vagans* Oliv.—At one time this species was fairly abundant but now it is of rare occurrence in this locality.
- Anoplodera pubera* Say.—Common on blossoms.
- Anoplodera vittata* Oliv.—Common on blossoms.
- Bellamira scalaris* Say.—Rare; on decaying hard maple. Wellington: July 15, 1922; July 8, 1923.
- Typocerus zebratus* Oliv.—On hickory; one specimen. Hillier: June 30, 1937.
- Typocerus velutinus* (Oliv.).—Abundant on blossoms of blackberry, sumach, and milkweed.
- Molorchus bimaculatus* Say.—Abundant on blossoms.
- Callimoxys fuscipennis* (Lec.).—Common on blossoms of dogwood and hawthorn.
- Physocnemum brevilinum* (Say).—Rare. Wellington: July 19, 1935; July 6, 1939.
- Anacomis lignea* (Fab.).—Rare. Wellington: May 15, 1926.
- Callidium violaceum* (L.).—On dead cedar.
- Callidium frigidum* Csy.—On dead cedar.
- Phymatodes amoenus* (Say).—Common on dead grape vines.
- Phymatodes aereus* (Newm.).—One specimen. Wellington: June 20, 1926.
- Phymatodes dimidiatus* (Kby.).—Two specimens. Wellington: June 20, 1923; June 23, 1914.
- Cyllene robiniae* (Forst.).—Abundant on blossoms of goldenrod.
- Glycobius speciosus* (Say).—On trunks of dead hard maple.

- Calliodes nobilis* Harris.—Rare. Wellington: June 16, 1918.
- Xylotrechus colonus* (Fab.).—Abundant on stumps and trunks of dead hardwoods.
- Xylotrechus quadrimaculatus* (Hald.).—Rare. Wellington: June 23, Aug. 3, 1919.
- Xylotrechus aceris* Fisher.—Rare; on blue beech. Wellington: Aug. 2, 1925; July 31, 1938.
- Xylotrechus undulatus* (Say).—Rare. Wellington: July 1, 1916.
- Neoclytus muricatulus* (Kby.).—Rare; on fallen trees.
- Neoclytus acuminatus* (Fab.).—On soft maple.
- Anthoboscus ruricola* (Oliv.).—Common on fallen trees and vegetation.
- Cyrtophorus verrucosus* (Oliv.).—Common.
- Atimia confusa* (Say).—Rare; on foliage of basswood, ash, and soft maple at the margins of swamps.
- Psenocerus supernotatus* (Say).—Common.
- Monochamus carolinensis* (Oliv.).—Rare; on white pine.
- Monochamus notatus* (Drury).—On white pine.
- Monochamus scutellatus* (Say).—Abundant on the branches of dead white pine.
- Dorcaschema nigrum* (Say).—Common on dead branches of hickory.
- Goes pulcher* (Hald.).—Rare; on hickory.
- Microgoes oculatus* (Lec.).—Fairly common on sumach.
- Aegomorphus decipiens* Hald.—On beech trunks.
- Astylopsis macula* (Say).—Common on dead branches of basswood.
- Astylopsis guttata* (Say).—Common on branches of white pine and poplar.
- Leiopus variegatus* (Hald.).—Wellington: July 13, 1935; June 28, 1938.
- Leiopus fascicularis* (Harris).—Abundant on prickly ash.
- Leiopus alpha* (Say).—Common on dead sumach.
- Lepturges symmetricus* (Hald.).—On dead twigs of beech and maple.
- Lepturges signatus* Lec.—Common on branches of hard maple.
- Lepturges querci* Fitch.—On oak and hickory.
- Hyperplatys maculata* Hald.—On dead sumach.
- Hyperplatys adspersa* (Say).—On dead branches of apple and basswood.

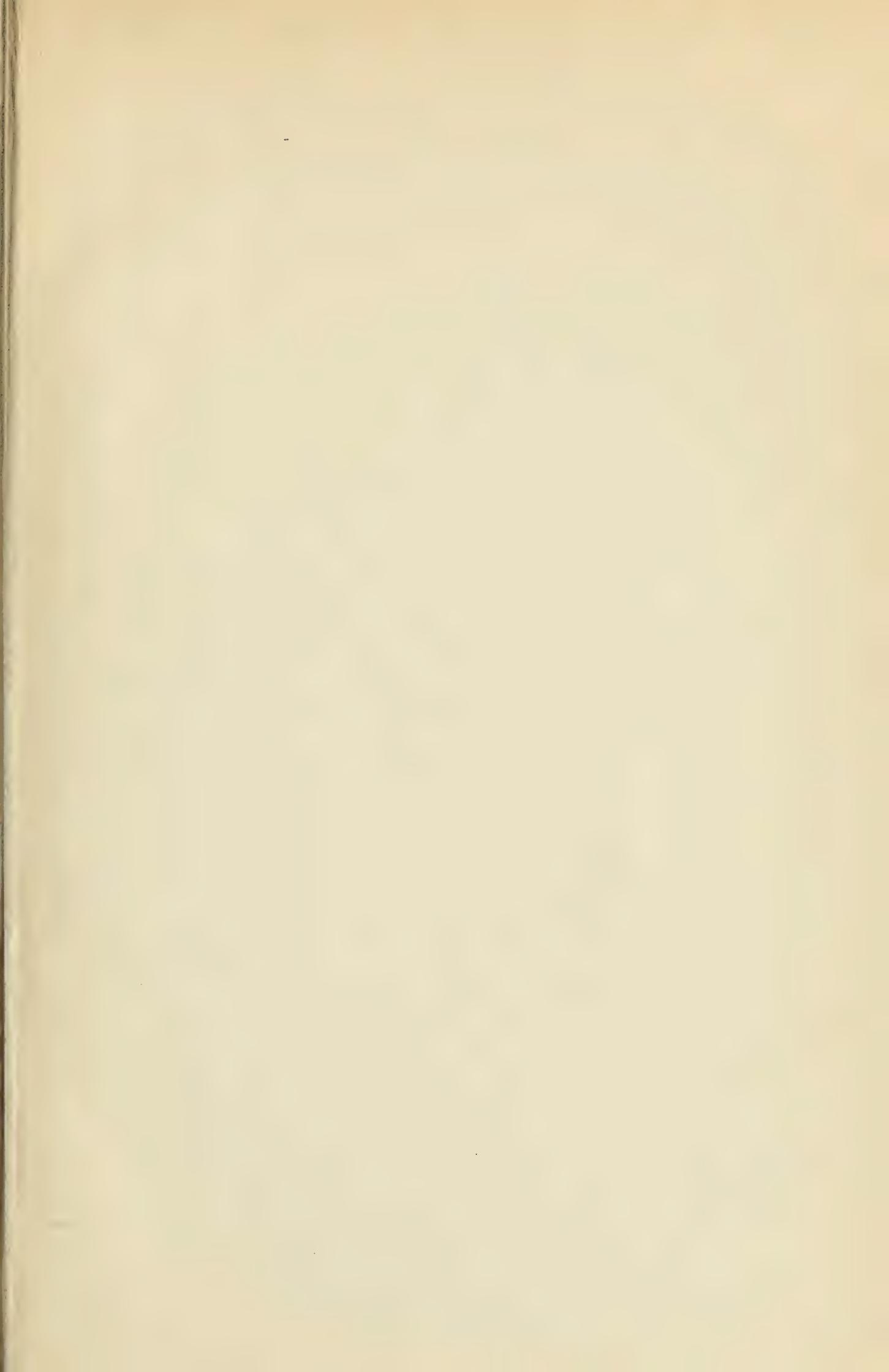
- Urographis fasciata* (DeGeer).—Abundant on beech, soft and hard maple.
- Hoplosia nubila* (Lec.).—On basswood.
- Pogonocherus penicellatus* Lec.—On spruce.
- Pogonocherus parvulus* Lec.—On willow.
- Pogonocherus mixtus* Hald.—On pine.
- Ecyrus dasycerus* (Say).—Rare. Wellington: July 7, 1937.
- Eupogonius vestitus* (Say).—Common on basswood.
- Eupogonius subarmatus* (Lec.).—Common on basswood.
- Saperda mutica* Say.—On willow.
- Saperda calcarata* Say.—On poplar.
- Saperda tridentata* Oliv.—On elm.
- Saperda vestita* Say.—Common on basswood.
- Saperda imitans* F. and J.—Rare. Wellington: July 10, 1927.
- Saperda lateralis* Fab.—Frequent on elm and occasional on hickory.
- Saperda puncticollis* Say.—Common on Virginia creeper.
- Saperda moesta* Lec.—On willow.
- Saperda concolor* Lec.—Frequent on willow.
- Oberea schaumii* Lec.—Rare; on willow.
- Oberea tripunctata* (Swed.).—Common.
- Oberea bimaculata* (Oliv.).—On raspberry and blackberry.
- Tetraopes tetrophthalmus* (Forst.).—Common on milkweed.

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